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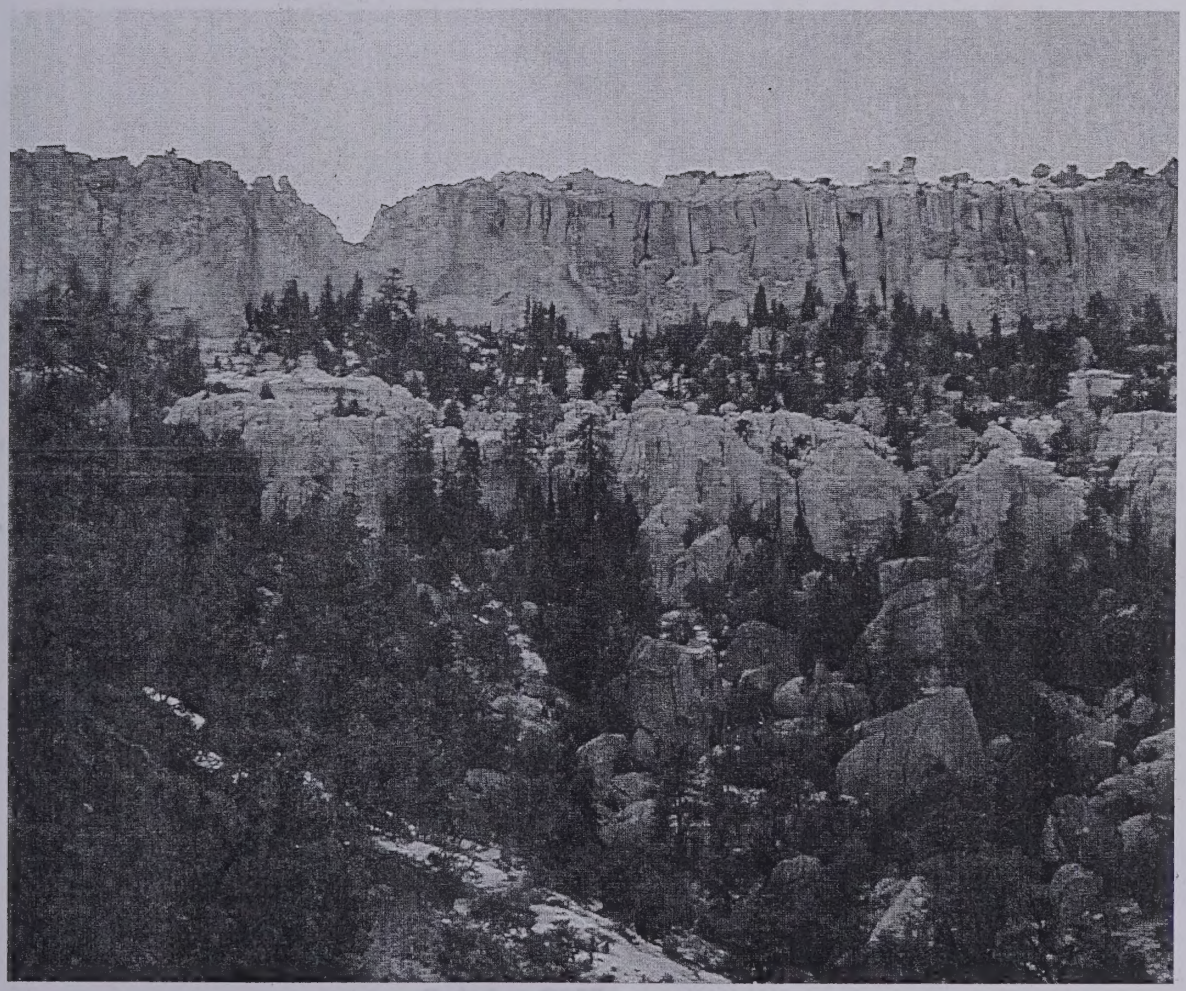

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BIOLOGICAL ASSESSMENT
PROPOSED ELY RESOURCE MANAGEMENT PLAN

BUREAU OF LAND MANAGEMENT
ELY FIELD OFFICE
Ely, Nevada

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1.0 INTRODUCTION

This Biological Assessment (BA) is being prepared to address the effects of implementation of the Bureau of Land Management (BLM) Ely Proposed Resource Management Plan (RMP) in Nevada. The Ely Proposed RMP and Final Environmental Impact Statement (EIS) provide programmatic and implementable direction for management of lands within the planning area. The planning area for the Proposed RMP/Final EIS consists of public lands in White Pine and Lincoln counties and a portion of Nye County in east-central Nevada. The planning area measures approximately 230 miles (north-south) by 115 miles (east-west) (**Map 1-1**). The planning area was previously divided into three resource areas (Egan, Schell, and Caliente) but is now managed as a single administrative unit. The Ely Field Office manages approximately 11.5 million acres of public lands out of approximately 13.9 million acres within the boundaries of the planning area. The Proposed RMP was prepared using BLM's planning regulations and guidance issued under the authority of the Federal Land Policy and Management Act of 1976.

This BA, which is prepared in accordance with Section 7(c) of the Endangered Species Act, addresses the effects of implementation of the BLM Ely Proposed RMP on federally-listed species. This BA is prepared to ensure that, through consultation with the U.S. Fish and Wildlife Service, implementation of these actions is not likely to jeopardize the continued existence of a listed species, or result in the destruction or adverse modification of designated critical habitat, as required under section 7(a)(2) of the Endangered Species Act. To meet BLM's responsibilities of consulting under Section 7 at the time management plans are adopted, as well as when actions under the plan are implemented, this analysis and future implementation of actions under the Proposed RMP will be conducted in accordance with the U.S. Fish and Wildlife Service's Draft Programmatic Consultation Guidance (U.S. Fish and Wildlife Service 2003). This BA represents the programmatic level of Section 7 consultation on the Proposed RMP, as such, the proposed action defined in this document is general in nature, and represents the most accurate information available at this time. Although the planning period used for development of the Ely RMP generally is 20 years, the Ely Field Office recognizes that the Biological Opinion issued by the U.S. Fish and Wildlife Service will likely be issued for a shorter term (e.g.,10 years) and that additional consultation will be required at the end of that period.

Upon development of project-level details for specific activities identified in the Proposed RMP, the BLM will provide project-specific documentation as defined in the draft guidance for project-level consultation. It is expected that specific project-level activities proposed under the programmatic framework of the Ely RMP will require separate Section 7 consultation. This approach is discussed in various resource sections (e.g., Lands and Realty and Geology and Minerals) where such project-level activities are likely to occur.

The U.S. Fish and Wildlife Service initially identified 11 federally listed and 1 federal candidate species that may be affected by implementation of the Ely Proposed RMP (**Table 1-1** and **Map 1-2**). Six of the species have critical habitat that has been designated within or adjacent to BLM-administered lands. Various maps in Chapter 2.0 show the distribution of special status species on the planning area. Detailed analyses associated with each of the Proposed RMP management programs are contained in Chapter 5.0 of this BA.

Table 1-1
Species Evaluated in the Ely Proposed RMP Biological Assessment

Common Name	Scientific Name	Federal Status	Critical Habitat in the Ely Proposed RMP Planning Area
Plants			
Ute ladies'-tresses	*Spiranthes diluvialis*	Threatened	Critical habitat has not been designated for this species in the planning area.
Fish			
Pahrump poolfish	*Empetrichthys latos latos*	Endangered	Critical habitat has not been identified for this species.
Big Spring spinedace	*Lepidomeda mollispinis pratensis*	Threatened	Condor Canyon in Meadow Valley Wash, Lincoln County
White River springfish	*Crenichthys baileyi baileyi*	Endangered	Ash Springs and its outflow in Pahranagat Valley, Lincoln County
Hiko White River springfish	*Crenichthys baileyi grandis*	Endangered	Hiko and Crystal Springs and their outflows in Pahranagat Valley, Lincoln County, on private land.
Pahranagat roundtail chub	*Gila robusta jordani*	Endangered	Critical habitat has not been identified for this species, on private land.
White River spinedace	*Lepidomeda albivallis*	Endangered	Three springs and their outflow in White River Valley (two springs in White Pine County and one spring in Nye County), on private and state lands.
Railroad Valley springfish	*Crenichthys nevadae*	Threatened	Three springs in Railroad Valley, Duckwater area, Nye County, on private, state, and tribal lands.
Birds[1]			
Southwestern willow flycatcher	*Empidonax traillii extimus*	Endangered	Designated critical habitat does not occur within the management boundaries of the Ely Field Office.
Reptiles			
Desert tortoise	*Gopherus agassizii*	Threatened	Southern Lincoln County

[1] The bald eagle was 1 of the 11 federally listed species initially identified for analysis in this BA, but it was removed from the list effective August 8, 2007.

Four species, Virgin River chub (*Gila seminuda*), woundfin (*Plagopterus argentissimus*), Moapa dace (*Moapa coriacea*), and Yuma clapper rail (*Rallus longirostris yumanensis*), were considered in the initial evaluation of species to be addressed in this BA. These species occur in the Virgin River/Muddy River watersheds in Nevada. Although watersheds in the southern portion of Lincoln County drain into the Virgin River system, none of the RMP programs would affect these tributaries to the Virgin River. As a result, these four species were eliminated from further discussion in this BA.

1.1 Species for Which a No Effect Determination Has Been Made

1.1.1 Fish Species

Several of the listed fish species (Hiko White River springfish, Pahranagat Roundtail chub, White River spinedace, and Railroad Valley springfish) occur only on non-BLM-administered lands within the planning area. The ponds, springs, and streams on these private lands are situated far enough away from the nearby

public lands to be isolated from erosion and runoff effects on the public lands, and they would not be affected by any proposed land disposals or resource development activities on the public lands. Because the actions associated with the BLM resource management programs would neither directly nor indirectly affect the private lands or the waters inhabited by these species, the BLM has determined that the proposed management programs would have "no effect" on these species and would not disturb or destroy their critical habitats.

1.1.2 Wildlife Species

When preparation of this Biological Assessment commenced and during preliminary discussions with the U.S. Fish and Wildlife Service, the bald eagle was one of the eleven federally listed species identified for analysis. This species, however, was formally delisted effective August 8, 2007, and is no longer included in the analysis presented in this document.

1.1.3 Plant Species

Because the only known population within the planning area of the single listed plant species, Ute ladies'-tresses, occurs on private land, the BLM has determined that the proposed management programs would have "no effect" on this species. Critical habitat has not been designated for the species.

1.2 Federal Candidate Species and Other Special Status Species

In addition to the requirements under the Endangered Species Act, BLM Manual, Section 6840.06C, requires that special status species that are not federally listed or proposed for listing be afforded the same level of protection provided for candidate species. In particular, representative species of concern in the planning area include the pygmy rabbit, western burrowing owl, greater sage-grouse, Meadow Valley Wash desert sucker, Meadow Valley Wash speckled dace, Arizona southwestern toad, banded Gila monster, and sunnyside green gentian. The BLM is requesting conservation recommendations from the U.S. Fish and Wildlife Service for these species and the federal candidate species yellow-billed cuckoo.

2.0 SUMMARY OF PROPOSED RMP

This BA, which is prepared in accordance with Section 7(c) of the Endangered Species Act, addresses the effects of implementing the BLM Ely Proposed RMP. All programs presented in the RMP with the potential to affect any or all of the 10 federally listed and 1 candidate species are addressed in this BA. Please refer to the Ely Proposed RMP and Final EIS for details on the remaining programs implemented for the Ely planning area.

2.1 Vegetation Resources

The Federal Land Policy and Management Act, the Public Rangeland Improvement Act, and the Healthy Forests Restoration Act, provide objectives and priorities for management of public land vegetation resources. Guidance contained in Title 43, Subpart 4180 of the Code of Federal Regulations directs public land management toward the maintenance or restoration of the physical function and biological health of vegetation systems. Land Health Standards for lands administered by the BLM in Nevada were approved by the Secretary of the Interior in 1997.

Ecological site descriptions will be used as the initial basis to guide integrated management/treatments to meet the desired goals and objectives for vegetation.

Implement specific management actions and decisions by vegetation community to achieve the desired range of conditions and objectives, and to meet the overall goal of vegetation in the Proposed RMP. A variation of 5 percent above or below the values listed in the desired range of conditions for all vegetation communities is considered acceptable.

Goal

Manage vegetation resources to achieve or maintain resistant and resilient ecological conditions while providing for sustainable multiple uses and options for the future across the landscape.

Northeastern Great Basin Resource Advisory Council Standard. Habitats – Exhibit a healthy, productive and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover, and living space for animal species and maintain ecological processes; habitat conditions meet the life cycle requirements of threatened and endangered species.

Mojave/Southern Great Basin Resource Advisory Council Standard. Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

Objective

To manage for resistant and resilient ecological conditions including healthy, productive, and diverse populations of native or desirable nonnative plant species appropriate to the site characteristics.

2.1.1 General Vegetation Management

Management Actions

VEG-1: Emphasize treatment areas that have the best potential to maintain desired conditions or respond and return to the desired range of conditions and mosaic upon the landscape, using all available current or future tools and techniques.

VEG-2: Develop specific management objectives through the watershed analysis process, incorporating direction from activity plans.

VEG-3: Adhere to the Healthy Forests Restoration Act of 2003 (Section 102 (e)) to protect old-growth characteristics or their equivalent.

VEG-4: Design management strategies to achieve plant composition within the desired range of conditions for vegetation communities, and emphasize plant and animal community health at the mid scale (watershed level).

VEG-5: Focus restoration of undesirable conditions initially on those sites that have not crossed vegetation transitional thresholds.

VEG-6: Emphasize the conservation and maintenance of healthy, resilient, and functional vegetation communities before restoration of other sites.

VEG-7: Determine seed mixes on a site-specific basis dependent on the probability of successful establishment. Use native and adapted species that compete with annual invasive species or meet other objectives.

2.1.2 Parameter – Pinyon-Juniper Woodlands

Management Actions

VEG-8: Implement actions to attain the desired vegetation states shown in **Table 2-1**.

VEG-9: Integrate treatment priorities to include:

1. Public safety and protection from catastrophic wildland fire above other considerations.

Table 2-1
Desired Range of Conditions of Pinyon-Juniper (Distribution of Woodland Phases and States)

State and Phase	Herbaceous State	Herbaceous State (Immature Woodland Phase)	Tree State (Mature Woodland Phase)	Tree State (Overmature Woodland Phase)[1]	Altered State
Canopy Description[2]	0 to 10% canopy cover-includes herbaceous, herbaceous-shrub, and sapling phase	11 to 20% canopy cover	21 to 35% canopy cover	>36 to 50% canopy cover	Site dominated by invasive species or weeds
LANDFIRE classes	A and B	C	D and E	E	Uncharacteristic
Proposed RMP[3]	10% (359,300 acres)	20% (718,700 acres)	65% (2,335,700 acres)	5% (179,700 acres)	0% (0 acres)

[1] Overmature woodland refers to woodlands exhibiting greater than 35 percent canopy cover. This classification is not the same as "old growth" although the two classifications may coincide in some situations.
[2] Canopy descriptions derived from Natural Resource Conservation Service Ecological Site Descriptions.
[3] This alternative approximates and incorporates the LANDFIRE Biophysical Settings models for Great Basin Pinyon-juniper Woodland. Altered state is an uncharacteristic condition not recognized by LANDFIRE Biophysical Settings models but is part of current conditions.

2. Limit the transition of immature and mature phases to the overmature phase and from becoming infested with invasive species.

3. Direct overmature woodlands toward earlier phases (i.e., herbaceous state and phase) on a watershed basis, and only if existing immature and mature woodlands are considered resilient and do not need treatments to maintain resiliency.

4. Manage for pinyon-juniper old-growth characteristics to include broad asymmetric tops, deeply furrowed bark, twisted trunks or branches, dead branches and spike tops, large lower limbs, hollow trunks (mostly in juniper), large trunk diameters relative to tree height, and branches covered with a bright yellow-green lichen on true woodland sites as defined by ecological site description.

2.1.3 Parameter – Aspen

Management Actions

VEG-10: Implement actions to attain the desired vegetation states shown in **Table 2-2**.

VEG-11: Integrate treatment priorities that include:

1. Areas where select species of conifers dominate the tree overstory and where canopy cover exceeds the percentages listed in the desired range of conditions in **Table 2-2** (Overmature Phase).

2. Areas where understory species are declining and aspen are not regenerating.

Table 2-2
Desired Range of Conditions of Aspen (Distribution of Phases and States)

State and Phase	Herbaceous State (Herbaceous, and Herbaceous-Shrub and Sapling Phase)	Herbaceous State (Immature Woodland Phase)	Tree State (Mature Woodland Phase)	Tree State (Overmature Woodland Phase)
Canopy Cover[1]	0 to 15% tree canopy cover	16 to 29% tree canopy cover.	30 to 45% tree canopy cover	45% or greater tree canopy cover (includes conifer dominated)
LANDFIRE classes	A	B	C and D	D and E
Proposed RMP[2]	14% (980 acres)	40% (2,800 acres)	45% (3,150 acres)	<1% (<70 acres)

[1] Canopy cover determined from Natural Resource Conservation Service Ecological Site Descriptions.
[2] The Proposed RMP approximates and incorporates the LANDFIRE Biophysical Setting Models for Rocky Mountain aspen forest and Inter-mountain Basin aspen-mixed conifer forest and woodland. Description of LANDFIRE CLASSES can be found at www.landfire.gov.

3. Managing aspen communities (using disturbance) to remain in or move toward those phases that are more resilient and resistant to disturbance.

4. Allowing regeneration to occur where potential allows, and to protect that regeneration through use restrictions or other protection methods.

5. Selecting and applying of protection measures on a site-specific basis during implementation of the RMP.

6. Managing aspen stands to maintain or improve stand characteristics and promote regeneration.

2.1.4 Parameter – High Elevation Conifer Species

Management Actions

VEG-12: Implement actions to attain the desired vegetation states shown in **Tables 2-3** and **2-4.**

Table 2-3
Desired Range of Conditions of High Elevation Conifer (Distribution of States and Phases)

State and Phase	Herbaceous State, (Herbaceous, and Herbaceous/Sapling Phase)	Herbaceous State (Immature Phase)	Tree State (Mature Phase)	Tree State (Overmature Phase)[1]
Canopy Cover[2]	0 to 15% canopy Cover	16 to 31% canopy cover	31 to 40% canopy cover	41 to 60% canopy cover
LANDFIRE classes	A	B	C	C
Proposed RMP[3]	20% (9,400 acres)	20% (9,400 acres)	50% (23,500 acres)	10% (4,700 acres)

[1] Overmature high elevation conifer refers to stands with canopy cover exceeding 40 percent. This classification is not the same as "old growth," although the two classifications may coincide in some situations.
[2] Canopy cover derived from Natural Resource Conservation Service Ecological Site Descriptions.
[3] The Proposed RMP approximates and incorporates the LANDFIRE Biophysical Setting Models for Inter-Mountain white fir limber-bristlecone pine woodland (47,000 acres).

Table 2-4
Desired Range of Conditions of Ponderosa Pine (Distribution of States and Phases)

State and Phase	Herbaceous State, (Herbaceous, and Herbaceous/Sapling Phase)	Tree State (Saplings and survivors)	Tree State (Mature Phase)	Tree State (Overmature Phase)
Canopy Cover	0 to 5% canopy cover	5-10% canopy cover	10-20% canopy cover	Greater than 20% canopy cover
LANDFIRE Classes	A	C	D	B and E
Proposed RMP[1]	10% (900 acres)	20% (1,800 acres)	60% (5,400 acres)	10% (900 acres)

[1] LANDFIRE Biophysical Setting Model for southern Rocky Mountain ponderosa pine and appropriate ecological site descriptions.

VEG-13: Integrate treatment priorities that include:

1. Areas where tree overstory canopy is approaching threshold levels (i.e., self-thinning and understory is diminishing).

2. Areas where overstory tree canopy cover and density have crossed a threshold, and are restricting understory growth.

3. Protect conifer trees, as appropriate, that meet the old growth criteria. General characteristics are: white fir, 24 inches diameter breast height and 75 feet in height; limber pine, 20 inches diameter breast height and 75 feet in height; ponderosa pine, 30 inches diameter breast height and 75 feet in height.

2.1.5 Parameter – Salt Desert Shrub

Management Actions

VEG-14: Implement actions to attain the desired vegetation states shown in **Table 2-5**.

Table 2-5
Desired Range of Conditions of Salt Desert Shrub (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Altered State Annual Invasive/Exotic State	Altered State Perennial Nonnative Seeded
LANDFIRE classes	A	B and C	Uncharacteristic	Uncharacteristic
Proposed RMP[1]	5% (61,050 acres)	77% (940,170 acres)	0% (0 acres)	18% (219,800 acres)

[1] The Proposed RMP approximates and incorporates the LANDFIRE Biophysical Setting Models for Inter-Mountain Basins mixed salt desert shrub and Inter-Mountain Basins greasewood flat. Altered state (invasive species/weeds) is an uncharacteristic condition not recognized by LANDFIRE Biophysical Setting Models but is part of current conditions.

VEG-15: Intensively manage areas currently in the herbaceous state to facilitate conversion to the shrub state.

2.1.6 Parameter – Sagebrush (basin big sagebrush, Wyoming big sagebrush, mountain big sagebrush, and black sagebrush)

Management Actions

VEG-16: Implement actions to attain the desired vegetation states shown in **Table 2-6**.

Table 2-6
Desired Range of Conditions of Sagebrush (Distribution of Phases and States)

State/Phase Name	Total Herbaceous State (Early, Mid, and Late Phases)[1]	Total Shrub State	Total Tree State	Altered State Annual/Perennial Invasive	Altered State Nonnative Perennial Seeded
LANDFIRE classes	A, B, and C	D	E	Uncharacteristic	Uncharacteristic
Proposed RMP[2]	85% (4,776,500 acres)	5% (281,000 acres)	5% (281,000 acres)	0% (0 acres)	5% (281,000 acres)

[1] Sagebrush in the mid-late phase of the herbaceous state is desired for wildlife habitat.

[2] The Proposed RMP approximates and incorporates the LANDFIRE Biophysical Setting Models for Great Basin xeric mixed sagebrush and Inter-Mountain Basin big sagebrush. Altered states (annual/perennial invasive and nonnative perennial seeded) are an uncharacteristic condition not recognized by LANDFIRE Biophysical Setting Models but are part of current conditions.

VEG-17: Integrate treatments to:

1. Establish and maintain the desired herbaceous state or early shrub state where sagebrush is present along with a robust understory of perennial species.

2. Prioritize treatments toward restoration of sagebrush communities on areas with deeper soils and higher precipitation.

VEG-18: Manage native range to meet the requirements of wildlife species. Management will focus on maintaining or establishing diversity, mosaics, and connectivity of sagebrush between geographic areas at the mid and fine scales.

2.1.7 Parameter – Mountain Mahogany

Management Actions

VEG-19: Implement actions to attain the desired vegetation states shown in **Table 2-7**.

Table 2-7
Desired Range of Conditions of Mountain Mahogany (Distribution of Phases and States)

State and Phase	Herbaceous State (Herbaceous Phase)	Shrub State (Shrub/ Herbaceous Phase)	Shrub State (Shrub Phase)	Shrub/Tree-like State (No Understory Phase)[1]
Canopy Cover[2]	0-15% mahogany canopy cover	15-25% mahogany canopy cover (desired mix of herbaceous and shrub species in understory)	30-45% mahogany canopy cover (approaching threshold with no understory)	45-60% mahogany cover (shrub/tree-like and tree dominant)
LANDFIRE classes	A and C	B	D	E
Proposed RMP[3]	20% (9,200 acres)	20% (9,200 acres)	15% (6,900 acres)	45% (20,700 acres)

[1] Refers to savanna sites.
[2] Canopy cover determined from Natural Resource Conservation Service Ecological Site Descriptions.
[3] The Proposed RMP approximates and incorporates the LANDFIRE Biophysical Setting Models for Inter-Mountain Basins Mountain Mahogany woodland and shrubland.

VEG-20: Integrate treatments in areas where:

1. Wildlife habitat requirements will receive the highest priority consideration when determining site-specific objectives in mountain mahogany sites.
2. Desirable understory is still present and where canopy cover is near threshold level or exceeds percentages listed for the desired range of conditions above (i.e., shrub/tree-like dominant state).

2.1.8 Parameter – Mojave Desert Vegetation

Management Actions

VEG-21: Implement actions to attain the desired vegetation states shown in **Tables 2-8** and **2-9**.

Table 2-8
Desired Range of Conditions of Creosotebush and Bursage (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Altered State (Annual Invasive and Exotics)	Perennial Nonnative Seeded State
LANDFIRE Classes	A	B	Uncharacteristic	Uncharacteristic
Proposed RMP[1]	15% (54,825 acres)	70% (255,850 acres)	0% (0 acres)	15% (54,825 acres)

[1] In creosotebush/bursage communities, the herbaceous state and shrub state will correspond respectively to Class A and Class B as given in the LANDFIRE Biophysical Setting Model for Sonora-Mojave creosotebush-white bursage description. Altered states are an uncharacteristic condition not recognized by LANDFIRE Biophysical Settings models but are part of current conditions.

Table 2-9
Desired Range of Conditions of Blackbrush (Distribution of Phases and States)

Habitat Type	Herbaceous State	Shrub State	Altered State (Annual Invasive and Exotics)	Perennial Nonnative Seeded State
LANDFIRE Classes	A	B	Uncharacteristic	Uncharacteristic
Proposed RMP[1]	15% (57,375 acres)	75% (286,875 acres)	0% (0 acres)	10% (38,250 acres)

[1] The herbaceous state and shrub state will correspond respectively to Class A and Class B as given in the LANDFIRE Biophysical Setting Model for Mojave mid-elevation desert scrub. Altered states are an uncharacteristic condition not recognized by LANDFIRE Biophysical Settings models but are part of current conditions.

VEG-22: Intensively manage areas currently in the herbaceous state to facilitate conversion to the shrub state.

2.1.9 Parameter – Riparian/Wetlands

Desired Range of Conditions. The Ely Field Office is directed to follow the appropriate rangeland health standards, which state, "Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria." In addition to achieving riparian proper functioning condition, composition, structure, and cover of riparian vegetation will occur within capabilities of the site. Ground cover and species composition will be appropriate to the site. Riparian areas with free-flowing water (i.e., undeveloped springs) that are non-functional or functioning at risk will show improving trends toward proper functioning condition.

Management Actions

VEG-23: Promote vegetation structure and diversity that is appropriate and effective in controlling erosion, stabilizing stream banks, healing channel incisions, shading water, filtering sediment, and dissipating energy, in order to provide for stable water flow and bank stability.

VEG-24: Focus management actions on uses and activities that allow for the protection, maintenance, and restoration of riparian habitat.

2.1.10 Parameter – Nonnative Seedings (Existing)

Management Actions

VEG-25: Implement actions to attain the desired vegetation states shown in **Table 2-10**.

Table 2-10
Desired Range of Conditions of Seedings (Distribution of Phases and States)

Habitat Type	Herbaceous state	Shrub state	Tree state	Altered State (Annual Invasive)
Proposed RMP	65% (175,200 acres)	25% (67,400 acres)	10% (26,900 acres)	0% (0 acres)

VEG-26: Include the following integrated treatments:

1. Use of ecological site descriptions as references for identifying appropriate management of non-seeded species on the sites.

2. Management of seedings to allow sagebrush, perennial grasses, and forbs to become established on the site.

2.2 Special Status Species

Section 102(8) of the Federal Land Policy and Management Act of 1976, as amended, requires that public land be managed to protect the quality of multiple resources and to provide habitat for fish, wildlife, domestic livestock, and wild horses. Special status species include federally listed, proposed, or candidate species; state protected species; and BLM sensitive species. The BLM must follow the requirements of the Endangered Species Act of 1973, as amended, and BLM policy to conserve federally listed threatened and endangered species and the ecological systems on which they depend. BLM policy also states, "...ensure that actions requiring authorization or approval by the Bureau of Land Management (BLM or Bureau) are consistent with the conservation needs of special status species and do not contribute to the need to list any special status species, either under provisions of the ESA or other provisions of this policy." The Ely Field Office will manage special status species following the direction and guidance identified in BLM Manual 6840; recovery plans; biological opinions; conservation agreements, plans, and strategies; habitat conservation plans; and the recommendations from interagency recovery implementation teams.

Goal

Manage public lands to conserve, maintain, and restore special status species populations and their habitats; support the recovery of federally listed threatened and endangered species; and preclude the need to list additional species.

Northeastern Great Basin Resource Advisory Council Standard.

- Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover, and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.

- Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.

Mojave/Southern Great Basin Resource Advisory Council Standard.

- Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

- Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses. Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

Objective

To manage suitable habitat for special status species in a manner that will benefit these species directly or indirectly and minimize loss of individuals or habitat from permitted activities.

2.2.1 Parameter – Special Status Species Habitat

Management Actions

SS-1: Prioritize conservation, maintenance, and restoration actions for special status species based on the following order of importance: 1) federally listed endangered species, 2) federally listed threatened species, 3) federal proposed species, 4) federal candidate species, and 5) BLM sensitive species.

SS-2: Develop and implement an interagency inventory and monitoring program for special status plant and animal species.

SS-3: Participate on interagency recovery implementation teams to identify and address implementation of management actions for the recovery of listed species in the Ely planning area.

SS-4: Where appropriate, restrict permitted activities from May 1 through July 15 within 0.5 mile of raptor nest sites unless the nest site has been determined to be inactive for at least the previous 5 years.

SS-5: Manage Bonneville cutthroat trout habitat by implementing those actions and strategies identified in the Conservation Agreement and Conservation Strategy for Bonneville Cutthroat Trout in the State of Nevada that the Ely Field Office has the authority to implement.

SS-6: Use the Revised Nevada Bat Conservation Plan (Bradley et al. 2006) for guidance on implementation of bat management actions, such as:

- Bat-friendly techniques for abandoned mine closures;
- Proper bat surveys of abandoned mines identified for hard closure techniques;
- Improving livestock grazing of riparian and upland habitat;
- Limiting off-highway vehicle travel in or near riparian habitat;
- Stopping conversion of native sagebrush vegetation communities to annual grasslands, and restoration to native rangelands;
- Installing escape ramps in artificial water sources;
- Monitoring wind energy development projects; and
- Rehabilitating areas damaged by fires.

SS-7: Implement management actions identified in the Ely Cave Management Plan (BLM 1986) (i.e., closures, bat gates, etc.) to protect bats, on a case-by-case basis.

SS-8: In vegetation communities, especially riparian areas and pinyon-juniper woodlands, consider the habitat needs of obligate bat species in restoration treatments.

SS-9: Perform springsnail surveys prior to the development of any spring source.

SS-10: Mitigate all discretionary permitted activities that result in the loss of special status species habitats on a ratio of 2 acres of comparable habitat for every 1 acre of lost habitat as determined on a project-by-project basis. This will not apply to desert tortoise habitat as remuneration fees and other measures to minimize effects to the tortoise are required for disturbance in desert tortoise habitat.

2.2.2 Parameter – Great Basin Riparian Habitat

Management in Great Basin riparian habitat will benefit the following special status species:

Pahrump poolfish (federally listed endangered species)
White River spinedace (federally listed endangered species)
Railroad Valley springfish (federally listed threatened species)
Big Spring spinedace (federally listed threatened species)
Ute ladies'-tresses (federally listed threatened species)

Management Actions

SS-11: Manage the refugium at Shoshone Ponds for Pahrump poolfish in accordance with the Recovery Plan for the Pahrump Killifish (now called the Pahrump poolfish).

SS-12: Expand the fenced area at Shoshone Ponds.

SS-13: Manage the uplands around Shoshone Ponds to increase vegetation cover, reduce runoff, and prevent excessive siltation into the ponds.

SS-14: Develop additional ponds at Shoshone Ponds to increase the habitat for the Pahrump poolfish.

SS-15: Manage public lands adjacent to designated critical habitat for the White River spinedace, located on private land, in accordance with the White River Spinedace Recovery Plan.

SS-16: Manage public lands adjacent to designated critical habitat for the Railroad Valley springfish, located on the Duckwater Indian Reservation, in accordance with the Railroad Valley Springfish Recovery Plan.

SS-17: Manage Big Spring spinedace habitat by implementing those actions and strategies identified in the Big Spring Spinedace Recovery Plan that the Ely Field Office has the authority to implement, and in accordance with the Condor Canyon Habitat Management Plan.

SS-18: In cooperation with the U.S. Fish and Wildlife Service, survey appropriate habitats on public lands in Lincoln County for the Ute ladies'-tresses. Develop and implement conservation and recovery actions for any populations that may be discovered.

2.2.3 Parameter – Mojave Desert and Great Basin Riparian Habitats

Management in Mojave Desert and Great Basin riparian habitat will benefit the following special status species:

Southwestern willow flycatcher (federally listed endangered species)
Western yellow-billed cuckoo (federal candidate species)
Meadow Valley Wash desert sucker (BLM sensitive species)
Meadow Valley Wash speckled dace (BLM sensitive species)
Arizona southwestern toad (BLM sensitive species)

Management Actions

SS-19: Manage southwestern willow flycatcher habitat by implementing those actions and strategies identified in the Southwestern Willow Flycatcher Recovery Plan and appropriate actions from future habitat conservation plans that the Ely Field Office has the authority to implement.

SS-20: Limit livestock grazing in the Lower Meadow Valley Wash ACEC through terms and conditions and/or season-of-use restrictions on grazing permits in accordance with a site-specific ACEC plan.

2.2.4 Parameter – Mojave Desert Riparian Habitat

Management in Mojave Desert riparian habitat will benefit the following special status species:

White River springfish (federally listed endangered species)
Hiko White River springfish (federally listed endangered species)
Pahranagat roundtail chub (federally listed endangered species)

Management Actions

SS-21: Manage White River springfish habitat at Ash Spring by implementing those actions and strategies identified in the Recovery Plan for the Aquatic and Riparian Species of Pahranagat Valley and the Ash Springs Coordinated Management Plan that the Ely Field Office has the authority to implement.

SS-22: Manage public lands adjacent to designated critical habitat for the Hiko White River springfish, located on private land, in accordance with the Recovery Plan for the Aquatic and Riparian Species of Pahranagat Valley.

SS-23: Manage public lands adjacent to the aquatic habitat for the Pahranagat roundtail chub, located on private and state land, in accordance with the Recovery Plan for the Aquatic and Riparian Species of Pahranagat Valley.

2.2.5 Parameter – Mojave Desert Scrub Habitat

Management in Mojave Desert scrub habitat will benefit the following special status species:
Desert tortoise (federally listed threatened species)
Banded Gila monster (BLM sensitive species)

Management Actions

SS-24: Manage desert tortoise habitat (see **Map 2-1**) by implementing those actions and strategies identified in the Desert Tortoise Recovery Plan and appropriate actions from future habitat conservation plans that the Ely Field Office has the authority to implement.

SS-25: Coordinate with the U.S. Fish and Wildlife Service and the Nevada Department of Wildlife to inventory desert tortoise habitat and desert tortoise populations.

SS-26: Implement an interagency monitoring program for desert tortoise habitat and desert tortoise populations, approved by the U.S. Fish and Wildlife Service and the Desert Tortoise Management Oversight Group.

SS-27: Cooperate with the U.S. Fish and Wildlife Service, Nevada Department of Wildlife, and the U.S. Department of Agriculture-Wildlife Services in a program to control desert tortoise predators.

SS-28: Coordinate with the U.S. Fish and Wildlife Service and Nevada Department of Wildlife to develop approved translocation research projects for desert tortoises.

SS-29: Coordinate with the U.S. Fish and Wildlife Service, Nevada Department of Wildlife, Federal Highway Administration, the Nevada Department of Transportation, and Lincoln County to install

tortoise-proof fencing and crossing culverts along U.S. Highway 93 in the Kane Springs ACEC and along other roads, as needed, in all three desert tortoise ACECs.

SS-30: Manage leased public lands in the Coyote Springs area in accordance with Public Law 100-275 dated March 31, 1988, and the Land Lease Agreement signed July 14, 1988.

SS-31: Limit maintenance of existing roads to the existing disturbance and perform maintenance in accordance with specifications provided by the Ely Field Office in consultation with the U.S. Fish and Wildlife Service.

SS-32: Where appropriate, restrict permitted activities from March 1 through October 31 within desert tortoise habitat.

SS-33: Implement the following management actions for desert tortoise habitat (see **Map 2-1**) (also refer to Section 2.4, Lands and Realty; Section 2.7, Recreation; Section 2.8, Livestock Grazing; Section 2.10, Geology and Mineral Extraction; and Section 2.12, Fire Management).

- Within desert tortoise ACECs: (Unless enclosed with tortoise-proof fence or determined that fencing is not necessary by the BLM authorized officer and the U.S. Fish and Wildlife Service) a qualified biologist will be present during surface-disturbing activities from March 1 through October 31 (most active season) to ensure that desert tortoises are not inadvertently harmed (unless determined by the BLM authorized officer and the U.S. Fish and Wildlife Service that the project does not need one). The biologist will be on-call from November 1 through February 28/29 (less active season). The biologist will check construction areas immediately before construction activities begin.

- Within desert tortoise ACECs: If fence construction occurs during the tortoise active season, a qualified tortoise biologist will be onsite during construction of the tortoise-proof fence to ensure that no tortoises are harmed. If the fence is constructed during the tortoise inactive season, a qualified tortoise biologist will thoroughly examine the proposed fence line and burrows for the presence of tortoises no more than three days before construction. Any desert tortoises or eggs found in the fence line will be relocated offsite by the biologist in accordance with approved protocol (Desert Tortoise Council 1994, revised 1999). Tortoise burrows that occur immediately outside of the fence alignment that can be avoided by fence construction activities will be clearly marked to prevent crushing.

- Within desert tortoise ACECs: Projects will require fencing, unless determined by the BLM authorized officer and U.S. Fish and Wildlife Service that the project should not be fenced. In accordance with current specifications, fencing will consist of 1-inch horizontal by 2-inch vertical mesh. The mesh will extend at least 18 inches aboveground and, where feasible, 6 to 12 inches belowground. In situations where it is not feasible to bury the fence, the lower 6 to 12 inches of the fence will be bent at a 90 degree angle towards potentially approaching tortoises and covered with cobble or other suitable material to ensure that tortoise or other animals cannot dig underneath.

- Within desert tortoise ACECs: Tortoise fencing will be inspected on a quarterly basis, and any repairs completed within 72 hours from March 1 through October 31, and within 7 days from November 1

through February 28/29. The operator will inspect the fencing at least on a quarterly basis and after major precipitation events to ensure zero ground clearance. Monitoring and maintenance will include regular removal of trash and sediment accumulation and restoration of zero ground clearance between the ground and the bottom of the fence, including re-covering the bent portion of the fence if not buried. The operator will perform maintenance when needed including removing trash, sediment accumulation, and other debris. Fencing will be removed upon termination and reclamation of the project, or when it is determined by the BLM authorized officer and U.S. Fish and Wildlife Service that the fence is no longer necessary.

- Within desert tortoise ACECs: After a project has been fenced and a tortoise clearance completed, if a desert tortoise in imminent danger is encountered, it will be moved out of harm's way and onto adjacent BLM-administered land by personnel that have completed appropriate U.S. Fish and Wildlife Service-approved training. If the tortoise cannot be avoided or moved out of harm's way onto BLM-administered land, it will be placed in a cardboard box or other suitable container and held in a shaded area until BLM personnel can retrieve the tortoise.

- Within desert tortoise ACECs: During surface-disturbing activities, tortoise burrows will be avoided whenever possible. If a tortoise is found onsite during project activities, which may result in take of the tortoise (i.e., in harm's way), such activities will cease until the tortoise moves, or is moved, out of harm's way. The tortoise will be moved by a qualified tortoise biologist. All workers also will be instructed to check underneath all vehicles before moving such vehicles and within stockpiled materials. Tortoises often take cover under vehicles and construct burrows in stockpiled material.

- Within desert tortoise ACECs: Construction sites, staging areas, and access routes will be cleared by a qualified tortoise biologist before the start of construction. The project area will be surveyed for desert tortoise using survey techniques that provide 100 percent coverage. From March 1 through October 31, the preconstruction clearance will be no more than 3 days before initiation of construction; and from November 1 through February 28/29, the preconstruction clearance will be within 10 days before work begins. All desert tortoise burrows, and other species' burrows, which may be used by tortoises, will be examined to determine occupancy of each burrow by desert tortoises. Tortoise burrows will be cleared of tortoises and eggs, and collapsed. Any desert tortoise or eggs found in the fenced area will be removed under the supervision of a qualified tortoise biologist in accordance with U.S. Fish and Wildlife Service protocol.

- Within desert tortoise ACECs: The BLM authorized officer will approve the selected consulting firm/biologist to be used by the applicant to implement the terms and conditions of the permit issued by the BLM. Any biologist and/or firm not previously approved will submit a curriculum vitae and be approved by the BLM authorized officer. Other personnel may assist with implementing terms and conditions that involve tortoise handling, monitoring, or surveys, only under direct field supervision of the approved, qualified biologist.

- Within desert tortoise ACECs: Tortoises and nests that are found will be handled and relocated by a qualified tortoise biologist in accordance with U.S. Fish and Wildlife Service-approved protocol. Burrows

containing tortoises or nests will be excavated by hand, with hand tools, to allow removal of the tortoise or eggs. Desert tortoises moved during the tortoise inactive season or those in hibernation, regardless of date, will be placed into an adequate burrow; if one is not available, one will be constructed in accordance with Desert Tortoise Council protocol. During mild temperature periods in the spring and early fall, tortoises removed from the site will not necessarily be placed in a burrow. Tortoises and burrows will only be relocated to federally managed lands. If the responsible federal agency is not the BLM, verbal permission, followed by written concurrence, will be obtained before relocating the tortoise or eggs to lands not managed by the BLM.

- Within desert tortoise ACECs: Tortoises that are moved offsite and released into undisturbed habitat on public land will be placed in the shade of a shrub, in a natural unoccupied burrow similar to the hibernaculum in which it was found, or in an artificially constructed burrow in accordance with Desert Tortoise Council protocol.

- When a permitted activity results in residual impacts to desert tortoise habitat, compensation will be required. The compensation rate will be determined through the NEPA process for each proposed action. The amount to be paid will be calculated according to the formula identified in the "Compensation for the Desert Tortoise" report approved by the Desert Tortoise Management Oversight Group in November 1991.

- Desert tortoises moved in the winter (i.e., November 1 through February 28/29), or those in hibernation regardless of date, will be placed into an adequate burrow; if one is not available, one will be constructed utilizing the protocol for burrows in Section B.5.f. of the U.S. Fish and Wildlife Service-approved guidelines (U.S. Fish and Wildlife Service 1994a).

- The BLM will present a tortoise-education program to all personnel working on projects or activities occurring within the planning area. This program will be presented by a qualified tortoise biologist for those projects with the greatest potential impacts to desert tortoise. A video or fact sheet, as approved by the U.S. Fish and Wildlife Service, may be presented or provided in lieu of a presentation for those projects with low potential impacts. A tortoise-education program will be given to, but not limited to: off-highway vehicle event entrants, pit crew members, crowd-control officials, race monitors, checkpoint personnel, clean-up crews, foremen, workers, grazing allotment permittees, hazardous materials management staff, fencing crews, fire suppression personnel, and others as appropriate.

- The program will include information on the life history of the desert tortoise, legal protection for desert tortoises, penalties for violations of federal and state laws, general tortoise-activity patterns, reporting requirements, measures to protect tortoises, terms and conditions of the permit, and personal measures employees can take to promote the conservation of desert tortoises. The definitions of take will be explained. Specific and detailed instructions will be provided on the proper techniques to capture and move tortoises which appear onsite, in accordance with U.S. Fish and Wildlife Service-approved protocol. The presentation shall be approved by the U.S. Fish and Wildlife Service prior to implementation. Workers will be encouraged to car pool to and from project sites.

- All projects in desert tortoise habitat will be reviewed by the BLM's wildlife staff to ensure that appropriate measures have been incorporated into the BLM authorization (e.g., material site, land sale, or off-highway vehicle event) to minimize the potential take of desert tortoise and loss of habitat.

- In accordance with Procedures for Endangered Species Act Compliance for the Mojave Desert Tortoise, a qualified desert tortoise biologist should possess a bachelor's degree in biology, ecology, wildlife biology, herpetology, or closely related fields as determined by the BLM. The biologist must have demonstrated prior field experience using accepted resource agency techniques to survey for desert tortoises and tortoise sign, which should include a minimum of 60 days field experience. All tortoise biologists will comply with the U.S. Fish and Wildlife Service-approved handling protocol prior to conducting tasks in association with terms and conditions of a permit. In addition, the biologist will have the ability to recognize tortoise sign and accurately record survey results.

- A BLM representative(s) will be designated and will be responsible for overseeing compliance with terms and conditions of all permitted activities and reporting requirements. The designated representative will provide coordination among the permittee, project proponent, the BLM, and the U.S. Fish and Wildlife Service.

2.2.6 Parameter – Mojave and Great Basin Desert Scrub and Salt Desert Shrub Habitats

Objective

To manage Mojave Desert and Great Basin desert scrub and salt desert shrub habitats for the benefit of the following special status species:

Western burrowing owl (BLM sensitive species)
Sunnyside green gentian (BLM sensitive species)

Management Actions

SS-34: Identify the spatial and temporal habitat needs for the western burrowing owl to help achieve the desired range of conditions of the various vegetation communities (see Section 2.1, Vegetation Resources).

SS-35: Work with the U.S. Fish and Wildlife Service, Nevada Department of Wildlife and other partners (e.g., Great Basin Bird Observatory, Partners in Flight) to conduct breeding bird surveys to document the population status and trends of western burrowing owls.

SS-36: Inventory and monitor populations of the Sunnyside green gentian in conjunction with the development of the White River Valley ACEC management plan.

2.2.7 Parameter – Great Basin Sagebrush Habitat

Objective

To manage Great Basin sagebrush habitats for the benefit of the following special status species:
Greater sage-grouse (BLM sensitive species)
Pygmy rabbit (BLM sensitive species)

Management Actions

SS-37: Manage greater sage-grouse habitat by implementing those actions and strategies identified in the BLM National Sage-Grouse Habitat Conservation Strategy, Greater Sage-Grouse Conservation Plan for Nevada and Eastern California, and local greater sage-grouse conservation plans that the Ely Field Office has the authority to implement.

SS-38: Maintain intact and quality sagebrush habitat. Prioritize habitat maintenance actions from the BLM National Sage Grouse Conservation Strategy to: 1) maintain large areas of high quality sagebrush currently occupied by greater sage-grouse; 2) maintain habitats which connect seasonal sagebrush habitats in occupied source habitats; and 3) maintain habitats that connect seasonal sagebrush habitats in occupied isolated habitats.

SS-39: Implement proactive and large scale management actions to restore lost, degraded, or fragmented sagebrush habitats and increase greater sage-grouse populations. Prioritize habitat restoration actions from the BLM National Sage Grouse Conservation Strategy to: 1) reconnect large patches of high quality seasonal habitats, which greater sage-grouse currently occupy; 2) enlarge sagebrush habitat in areas greater sage-grouse currently occupy; 3) reconnect stronghold/source habitats currently occupied by greater sage-grouse with isolated habitats currently occupied by greater sage-grouse; 4) reconnect currently occupied and isolated habitats; 5) restore potential sagebrush habitats that currently are not occupied by greater sage-grouse. Develop allowable use restrictions in greater sage-grouse habitats undergoing restoration, on a case-by-case basis, as dictated by monitoring.

SS-40: Outside of designated corridors, above-ground facilities will not be constructed within 0.25 mile of greater sage-grouse leks. Underground facilities (i.e., water pipelines, electrical lines, etc.) will not be installed within 0.25 mile of greater sage-grouse leks unless the vegetation can be established to pre-disturbance conditions within a reasonable period of time. No new roads will be constructed within 0.25 mile of greater sage-grouse leks. Exceptions may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the project can be designed so that it will not affect breeding activity nor degrade the integrity of the habitat associated with the lek, or if the lek has been inactive for at least 5 consecutive years or the habitat has changed such that there is no likelihood that the lek will become active.

SS-41: Where appropriate, restrict permitted activities from March 1 through May 15 within 2 miles of an active greater sage-grouse lek.

SS-42: Where appropriate, restrict permitted activities from November 1 through March 31 within greater sage-grouse winter range.

SS-43: Survey all proposed ground disturbing activities in suitable pygmy rabbit habitat utilizing the appropriate protocol. Surveys will be completed by a qualified biologist approved by the Ely Field Office.

2.3 Wild Horses

Introduction

The Wild Free-roaming Horse and Burro Act of 1971 (Public Law 92-195) requires the BLM to protect and manage wild horses in areas where they were found at the time of the Act, in a manner designed to achieve and maintain a thriving natural ecological balance in keeping with the multiple use management concept of public lands. These requirements are further detailed in the Standards and Guidelines for Wild Horses and Burros developed by the Northeastern Great Basin Resource Advisory Council and the Mojave/Southern Great Basin Resource Advisory Council. Eliminated and retained wild horse herd management areas are shown on **Map 2-2**.

Goal

Maintain and manage healthy, self-sustaining wild horse herds inside herd management areas within appropriate management levels to ensure a thriving natural ecological balance while preserving a multiple-use relationship with other uses and resources.

Northeastern Great Basin Resource Advisory Council Standard. Healthy wild horse and burro populations exhibit characteristics of healthy, productive, and diverse population. Age structure and sex ratios are appropriate to maintain the long-term viability of the population as a distinct group. Herd management areas are able to provide suitable feed, water, cover and living space for wild horses and burros and maintain historic patterns of habitat use.

Mojave-Southern Great Basin Resource Advisory Council Standard. Wild horses and burros within herd management areas should be managed for herd viability and sustainability. Herd management areas should be managed to maintain a healthy ecological balance among wild horse and/or burro populations, wildlife, livestock, and vegetation.

Objective

To maintain wild horse herds at appropriate management levels within herd management areas where sufficient habitat resources exist to sustain healthy populations at those levels.

Herds will consist of healthy animals that exhibit diverse age structure, good conformation, and any characteristics unique to the specific herd.

2.3.1 General Wild Horse Management

Management Actions

WH-1: Do not authorize domestic horse grazing permits within wild horse herd management areas.

WH-2: Coordinate wild horse management with other federal and state jurisdictions and resource management agencies.

WH-3: Do not construct permanent fences that prohibit the free-roaming behavior of wild horses or prevent wild horses from moving within herd management areas. Remove existing fences within herd management areas that restrict the free-roaming behavior of wild horses.

2.3.2 Parameter – Herd Management Area Establishment

Management Actions

WH-4: Manage wild horses within six herd management areas designated from herd areas based on wild horse use and habitat suitability listed in **Table 2-11** covering approximately 3.7 million acres.

Table 2-11
Proposed Herd Management Areas

Proposed Herd Management Areas	Size Acres	Initial Appropriate Management Level
Pancake	855,000	240 – 493
Triple B	1,225,000	250 – 518
Antelope	331,000	150 – 324
Silver King	606,000	60 – 128
Eagle	670,000	100 – 210
Diamond Hills South[1]	19,000	10 – 22
	3,705,000	**810 – 1,695**

[1] Managed as a complex with Elko and Battle Mountain BLM.

WH-5: Remove wild horses and drop herd management area status for those areas that do not provide sufficient habitat resources to sustain healthy populations as listed in **Table 2-12.**

WH-6: Base adjustments to appropriate management levels on monitoring data and perform adjustments typically, but not exclusively, in conjunction with the watershed analysis process.

Table 2-12
Herd Management Areas Eliminated in the Proposed RMP

Herd Management Area	Public Land Area (acres)[1]	Approximate Number of Animals Removed
Antelope (west of Highway 93)	62,900	0
Applewhite	30,300	0
Blue Nose Peak	84,600	5
Cherry Creek (eastern portion)	3,200	0
Clover Creek	33,100	10
Clover Mountains	168,000	20
Delamar Mountains	183,600	40
Highland Peak (southern 2/3)	65,500	0
Jakes Wash	153,700	50
Little Mountain	53,000	30
Meadow Valley Mountains	94,500	5
Miller Flat	89,400	30
Moriah	53,300	30
Rattlesnake (southern 1/2)	37,400	0
Seaman	358,800	100
White River	116,300	80
Totals	**1,587,600**	**400**

[1] Rounded to hundreds.

WH-7: Manage sex ratios, phenotypic traits, reproductive cycles, and other population dynamics on a herd management area basis.

WH-8: Implement the following management actions for desert tortoise habitat (also refer to Section 2.2, Special Status Species). The Ely Field Office does not plan to manage for any wild horses in desert tortoise habitat and this management only will be used if emergency gathers are needed in the future should wild horses reenter the area.

- For gathers: Trap sites should be located at previous trap site locations or in previously disturbed areas, where possible. All trap and holding sites, and access routes will be cleared by a qualified tortoise biologist before the trap and holding facilities are set up. The parcel will be surveyed for desert tortoise using survey techniques that provide 100 percent coverage.

- For gathers: Holding facilities will not be located inside ACECs. If possible, they should be located outside of desert tortoise habitat. If they cannot be located outside of desert tortoise habitat, they should be placed in previously disturbed areas.

- For gathers: All vehicle use in desert tortoise habitat will be restricted to existing roads and trails and within surveyed areas. Vehicles will not exceed 25 mph.

- For gathers: Trash and garbage will be contained in a covered, raven-proof trash receptacle and disposed of off-site in a designated facility. No trash or garbage will be buried at the sites.

- For gathers: Use of hay or grains as enticements into the traps will not occur within desert tortoise habitat to avoid the introduction of nonnative plant species. The feeding of hay or grains to animals will not be allowed within ACECs. The feeding of hay or grains to animals at holding facilities on public land within desert tortoise habitat will be avoided when possible.

- For gathers: The discharge of firearms will be prohibited at all traps and holding facilities except in the case of euthanasia of a captured animal by an authorized BLM employee or contractor.

2.4 Lands and Realty

Introduction

Section 102(a)(1) of the Federal Land Policy and Management Act requires that public land be retained in federal ownership unless disposal of a particular parcel will serve the national interest. Acquisition of land to consolidate ownership patterns will provide for more efficient land management and administration for both public and private landowners. Retention and acquisition of land containing significant resource values will provide for long-term protection and management of those values.

Rights-of-way and other land uses are recognized as major uses of the public lands and are authorized pursuant to sections 302 and 501 of the Federal Land Policy and Management Act. Section 503 of the Federal Land Policy and Management Act provides for the designation of utility corridors and encourages utilization of rights-of-way in-common to minimize environmental impacts and the proliferation of separate rights-of-way. It is BLM policy to encourage prospective applicants to locate their proposals within corridors. Only facilities and uses that are consistent with the special designation associated with that area will be permitted in avoidance areas. Designation of exclusion zones—those areas where no new rights-of-way will be allowed—will provide protection of lands and resources with values that are not compatible with rights-of-way or other land uses.

The acquisition of legal public and administrative access is required to ensure continued effective administration and public use of these lands. This need becomes more acute as public use of these lands increases and as landowners become more aware of the value of public and private land for recreation and other purposes. Land tenure adjustment actions (exchanges or fee purchases) can be a valuable tool for access acquisitions. However, without careful review, lands actions, particularly disposals, can result in lost access.

Section 204 of the Federal Land Policy and Management Act gives the Secretary of the Interior the authority to make, modify, extend, or revoke withdrawals and mandates periodic review of existing withdrawals.

Goal

Manage public lands in a manner that:

- Allows the retention of public land with high resource values;
- Consolidates public land patterns to ensure effective administration and improve resource management;
- Makes public lands that promote community development available for disposal;
- Meets public, local, state, and federal agency needs for use authorizations such as rights-of-way, permits, leases, and easements while avoiding or minimizing adverse impacts to other resource values; and
- Utilizes withdrawal actions with the least restrictive measures and minimum size necessary to accomplish the desired purpose.

Objective

To respond to public, local, state, and federal agency needs for land for community development, utility and other associated rights-of-way, communication sites, and other allowed uses of BLM-administered lands.

2.4.1 Parameter – Retention

Management Actions

LR-1: Retain lands or interest in lands within designated critical habitat for federally listed threatened and endangered species unless the disposal results in the acquisition of land with higher quality habitat.

LR-2: Retain lands within ACECs.

LR-3: Under authority of the Federal Land Policy Management Act, Section 203, retain portions of the National Trails System including the corridors of both the Pony Express National Historic Trail and the California National Historic Trail within the designated corridor. This limitation is without regard for eligibility to the National Register of Historic Places and is instead tied to the congressionally-designated corridor.

LR-4: Prior to disposal, review all lands for National Natural Landmark eligibility and retain lands containing resources qualifying as National Natural Landmarks.

LR-5: Retain all public lands with springs and creeks that contain fisheries in federal ownership unless the disposal of these lands will result in the acquisition of lands with higher quality habitat.

LR-6: Retain lands in areas with high recreation value, unless state and county entities show an over-riding need through an acceptable recreation management plan.

2.4.2 Parameter – Disposal (Sales, Exchanges, Recreation and Public Purposes Act, and Airport Conveyances)

Management Actions

LR-7: In accordance with Section 7 of the Taylor Grazing Act, 43 U.S.C. 315f, and Executive Order No. 6910, the described lands are herby classified for disposal by sale, exchange, Recreation and Public Purposes Act, and airport conveyances.

LR-8: In accordance with the Lincoln County Conservation, Recreation, and Development Act of 2004, the Ely Field Office will dispose of not more than 90,000 acres of public land in Lincoln County identified for disposal by the Ely Field Office through the Ely Resource Management Plan or a subsequent amendment to the land use plan. The Ely Field Office and the County jointly will select the parcels of land to offer for sale. The lands identified in the approved plan upon signature of the Record of Decision will be withdrawn from:

- All forms of entry and appropriation under the public land laws, including the mining laws;
- Location, entry, and patent under the mining laws; and
- Operation of the mineral leasing and geothermal leasing laws.

Once the lands are disposed of by sale or an election by the County to obtain land under the Recreation and Public Purposes Act, the withdrawal will no longer apply.

LR-9: In accordance with the Lincoln County Conservation, Recreation, and Development Act of 2004, up to 15,000 acres of public land in Lincoln County could be conveyed to Lincoln County for open space and parks.

LR-10: In accordance with the Lincoln County Conservation, Recreation, and Development Act of 2004, approximately 4,780 acres of public land in Lincoln County could be conveyed to the State of Nevada for state park expansion.

LR-11: In accordance with the White Pine County Conservation, Recreation, and Development Act of 2006, the Ely Field Office will dispose of not more than 45,000 acres of public land in White Pine County identified for disposal by the Ely Field Office through the Ely Resource Management Plan or a subsequent amendment to the land use plan. The Ely Field Office and the County will jointly select the parcels of land to offer for sale. The lands identified in the approved plan upon signature of the Record of Decision will be withdrawn from:

- All forms of entry and appropriation under the public land laws, including the mining laws;
- Location, entry, and patent under the mining laws; and
- Operation of the mineral leasing and geothermal leasing laws.

Once the lands are disposed of by sale or an election by the County to obtain land under the Recreation and Public Purposes Act, the withdrawal will no longer apply.

LR-12: In accordance with the White Pine County Conservation, Recreation, and Development Act of 2006, the following lands will be conveyed to the State of Nevada, subject to valid existing rights, for no consideration, all right, title, and interest if the state and White Pine County enter into a written agreement supporting the conveyances.

- Approximately 6,265 acres identified as "Steptoe Valley Wildlife Management Area Expansion Proposal"; and
- Approximately 658 acres identified as "Ward Charcoal Ovens Expansion."

LR-13: In accordance with the White Pine County Conservation, Recreation and Development Act of 2006, the following lands will be conveyed to White Pine County, subject to valid existing rights, for no consideration, all right, title, and interest:

- Approximately 1,550 acres identified as "Airport Expansion"; and
- Approximately 200 acres identified as "Industrial Park Expansion."

LR-14: The U.S. mineral estate inside or outside the designated disposal areas may be conveyed to consolidate surface and sub-surface management ownership, if there is no known mineral value present, or if the reservation of mineral rights by the U.S. is interfering with or precluding appropriate non-mineral development that is considered to be a more beneficial use of the land. Conveyance of mineral interest shall be made only to the owner of record of the surface, upon payment of administrative costs and the fair market value of the interests being conveyed.

LR-15: Subject all Land Tenure adjustments to valid existing rights at the time of disposal.

LR-16: Dispose of lands outside of designated disposal areas to resolve unauthorized use of public land only when there are no other practical means of resolution.

LR-17: Maintain access to recreation areas.

LR-18: Exchanges. Consider land exchanges that serve the national interest and are beneficial to Ely Field Office programs or that support the programs of other agencies, per Sections 102, 205, and 206 of Federal Land Policy Management Act.

LR-19: Recreation and Public Purposes Act. Convey or lease public lands only for an established or definitely proposed project for which there is a reasonable timetable of development and satisfactory development and management plans. Convey no more land than is reasonably necessary for the proposed use.

LR-20: A total of 75,582 acres are available for potential disposal: 57,977 acres in Lincoln County; 0 acres in Nye County; and 18,453 acres in White Pine County. See **Maps 2-3**, **2-4**, **2-5**, and **2-6**. Federal Land Policy Management Act of 1976, Section 203 and 209, states that sales are the preferred method of disposal.

LR-21: Dispose of up to 4,500 acres in White Pine County by direct sale for power plants.

LR-22: Dispose of 40 acres located at Township 6 South, Range 57 East, Section 25, NW¼ NW¼ by direct sale to resolve a long standing agricultural lease that has several structures on it.

LR-23: Dispose of up to 640 acres in Lincoln County by direct sale for a power plant.

LR-24: Use the following criteria for disposal. These criteria may be modified as appropriate in the future.

- Allow land disposal of parcels containing National Register eligible sites when mitigation and/or data recovery has occurred prior to patent.

- Allow disposal of lands that are difficult to manage and are not suitable for management by another federal department or agency.

- Allow disposal of lands when disposal will serve important public objectives, including but not limited to community expansion or economic development; disposal could not be achieved prudently or feasibly on land other than public lands; and disposal outweighs other public objectives or values.

- Process existing Desert Land Entry, Carey Act, and Indian Allotment applications. If the application is cancelled, relinquished, or rejected, the lands could not be applied for again. Reject applications for Desert Land Entries, Carey Act, or Indian Allotments in designated disposal areas if they are located within a closed water basin unless existing water rights are held.

- Allow land disposals within herd management areas when the disposal 1) will not prohibit free roaming behavior within or between areas inside the herd management area, 2) will not eliminate so much habitat within the herd management area that a significant reduction of the appropriate management levels will result, and 3) will be subject to mitigation.

- Dispose of lands only in identified areas. Exceptions will be Recreation and Public Purposes Act, Airport Conveyances, existing Desert Land Entries, Carey Act and Indian Allotments, and disposals to resolve trespasses.

LR-25: The BLM will work cooperatively with tribes when specific expansion proposals are provided to BLM in the future. They will be reviewed and processed according to appropriate BLM policy related to the expansion of tribal lands.

2.4.3 Parameter – Acquisitions

Management Actions

LR-26: Limit acquisition of lands to situations where no other reasonable alternative exists. Coordinate on acquisitions with federal, state, and county agencies, and other interested parties prior to the acquisition. Consider private lands or rights for acquisition from willing sellers.

- Consider acquisition of lands or interest in lands with at-risk or high resource values or those characteristics that contribute to restoration, healthy watersheds, or other resource goals (e.g., ACECs, wilderness study areas, habitat for threatened and endangered species, cultural resources, and designated wilderness) in the planning area, or those lands that also provide for environmentally responsible commercial activities.

- Consider split-estate where appropriate to improve resource management while protecting resource values.

LR-27: Acquire legal public or administrative access from willing landowners, where a public demand or administrative need exists.

LR-28: Manage newly acquired lands in the same manner as comparable surrounding public lands or in conformance with established policies for the special management area.

LR-29: Prior to the acquisition of non-federal lands, conduct assessments (e.g., noxious weed) to enable the authorized officer to factor the cost of weed control into the acquisition decision.

2.4.4 Parameter – Withdrawals

Management Actions

LR-30: Implement proposed withdrawals, if appropriate, consisting of the BLM Caliente Administrative Site, the municipal water supply for the City of Ely, Murry Springs Watershed, and the entrance area from Baker to Great Basin National Park.

LR-31: Recommend withdrawal of lands with sensitive or high resource values (e.g., ACECs) from surface and mineral entry (see Section 2.10, Geology and Mineral Extraction).

LR-32: Consider requests by other federal agencies for new withdrawals, withdrawal relinquishments, and modifications on a case-by-case basis.

LR-33: Withdraw the 80-acre area around Ash Springs (Township 5 North, Range 61 East, Section 31, SW¼ SW¼, and Township 6 North, Range 61 East, Section 6, Lot 8, Mount Diablo Meridian) from

settlement, sale, location, or entry (with the exception of a no surface occupancy stipulation for fluid mineral leasing) (**Map 2-7**).

2.4.5 Parameter – Corridors

Management Actions

LR-34: Manage corridors in the RMP planning area as follows (see **Maps 2-8** and **2-9**):

A. Retain a corridor 1,000 feet wide, 500 feet on either side of the centerline of the existing telephone fiber optic lines, beginning within Township 11 South, Range 71 East, Section 30 running easterly to the Arizona state line.

B. Retain the Falcon to Gonder corridor, 0.5 mile wide, as an east-west corridor to interconnect with the Ely to Utah State Line portion of the Southwest Intertie Project corridor.

C. Retain the Ely to Utah State Line portion of the Southwest Intertie Project corridor as 0.5 mile wide.

D. Designate the approved Southwest Intertie Project corridor as 0.75 mile wide from the Elko/White Pine County line to the point where it parallels Highway 93 and the Pahranagat Wildlife Refuge at which point it will be 0.5 mile wide to the Clark County line.

E. Maintain the Moapa corridor at 0.5 mile wide.

F. Maintain the corridors designated by the Lincoln County Conservation, Recreation and Development Act as 0.5 mile wide.

G. Designate a new corridor, 0.5 mile wide, connecting with the corridor designated by the Lincoln County Conservation, Recreation, and Development Act. This corridor will begin near the Atlanta Mine where the Lincoln County Conservation, Recreation, and Development Act corridor ends and will trend in a northerly direction along the west side of Spring Valley, ending at the Southwest Intertie Project corridor.

2.4.6 Parameter – Communication Sites

Management Actions

LR-35: Authorize communication site locations that support community and economic development with an emphasis on co-location of sites.

LR-36: Establish wilderness study areas as avoidance areas.

LR-37: Establish designated wilderness as exclusion areas.

LR-38: Establish ACECs as avoidance or exclusion areas.

LR-39: Coordinate, as appropriate, with appropriate local, state, and federal agencies on siting and construction for all communication towers.

2.4.7 Parameter – Land Use Authorizations (Rights-of-Way, Permits, Leases, Easements, and Unauthorized Use)

Management Actions

LR-40: Establish wilderness study areas as avoidance areas.

LR-41: Establish designated wilderness as exclusion areas.

LR-42: Establish ACECs as avoidance or exclusion areas (see Section 2.14, Special Designations).

LR-43: Coordinate, as appropriate, with appropriate local, state, and federal agencies on siting and construction for rights-of-way proposals.

LR-44: Consider existing material site rights-of-way in ACECs (both developed and undeveloped) authorized under the provisions of the Federal Highway Aid Act as valid existing rights and consistent with the land use plan. Material site rights-of-way will be authorized within the 1-mile-wide corridor (0.5 mile on each side) on state and county roads and will be restricted to not less than 10-mile separations.

LR-45: Manage rights-of-way in desert tortoise habitat the same as that described for the Beaver Dam Slope, Kane Springs, and Mormon Mesa ACECs.

LR-46: Reclaim surface disturbances from unauthorized uses to pre-disturbance conditions, if possible.

LR-47: Where feasible, consolidate new land use authorizations within or adjacent to existing authorizations.

LR-48: Coordinate with the U.S. Fish and Wildlife Service on utility line development and Avian Protection Plan policies.

LR-49: Implement the following management actions for desert tortoise habitat (also refer to Section 2.2, Special Status Species; and Section 2.10, Geology and Mineral Extraction).

- Within desert tortoise ACECs: Drilling fluids and cuttings will be contained in portable mud pits or lined reserve pits in all operations.
- Within desert tortoise ACECs: Vibriosis, drill hole shot, or surface shot will not be completed within 100 yards of known tortoise burrows.

- Within desert tortoise ACECs: Companies controlling new road segments may be required to restrict access to the general public. This access could be in the form of closed gates, and these restrictions will not apply to authorized agents of the operator or their subcontractor(s), the land managing agency, and other agencies with a legitimate access need.

- A speed limit of 25 miles per hour will be required for all vehicles on the project site and unposted dirt access roads.

- If possible, overnight parking and storage of equipment and materials, including stockpiling, will occur in previously disturbed areas or areas to be disturbed that have been cleared by a qualified tortoise biologist. If not possible, areas for overnight parking and storage of equipment will be designated by the BLM authorized officer based on recommendations of a qualified tortoise biologist.

- All vehicular traffic will be restricted to existing access roads, or those roads approved by the BLM authorized officer in consultation with the U.S. Fish and Wildlife Service.

- Project activity areas will be clearly marked or flagged at the outer boundaries before the onset of construction. All activities will be confined to designated areas. Blading of vegetation will occur only to the extent necessary and will be limited to areas designated for that purpose by the BLM authorized officer based on recommendations from a qualified tortoise biologist.

- When a permitted activity results in residual impacts to desert tortoise habitat, compensation will be required. The compensation rate will be determined during the NEPA process for each proposed action. The amount to be paid will be calculated according to the formula identified in the "Compensation for the Desert Tortoise" report approved by the Desert Tortoise Management Oversight Group in November 1991.

- Projects resulting in residual impacts will require the submission of a BLM and U.S. Fish and Wildlife Service-approved reclamation plan, unless determined by the BLM authorized officer and U.S. Fish and Wildlife Service that reclamation or rehabilitation is not necessary. The reclamation/rehabilitation plan will describe objectives and methods to be used, species of plants and/or seed mixture to be used, time of planting, success standards, and follow-up monitoring. Depending upon the size and location of the project, reclamation could range from recontouring, to rehabilitation and restriction of access points, to intensive reclamation over the entire area of surface disturbance. The plan will be prepared within 60 days following completion of the surface disturbance phase of the project. Reclamation will be addressed on a case-by case basis.

- If trenches or holes are to remain open overnight, they will be checked for tortoises at the end and beginning of each workday. The trenches or holes also will be checked immediately prior to backfilling.

- Prior to starting operations each day on any land, energy, or minerals project that have not been totally enclosed by tortoise proof fencing and cattle guards, the operator will be responsible for conducting a desert tortoise inspection by qualified desert tortoise biologists using techniques approved by the U.S.

Fish and Wildlife Service and BLM. The inspection will determine if any desert tortoises are present in the following locations:

a. Around and under all equipment;
b. In and around all disturbed areas to include stockpiles and reject materials areas;
c. In and around all routes of ingress and egress; and
d. In and around all other areas where the operation might expand to during that day.

If a tortoise is discovered during this inspection or later in the day, the operator will immediately cease all operations in the immediate vicinity of the tortoise and will immediately notify the BLM authorized officer.

- A litter-control program shall be implemented to minimize predation on tortoises by ravens drawn to the project site. This program will include the use of covered, raven-proof trash receptacles, removal of trash from project areas to the trash receptacles following the close of each work day, and the proper disposal of trash in a designated solid waste disposal facility. Appropriate precautions must be taken to prevent litter from blowing out along the road when trash is removed from the site. The litter-control program will apply to all actions. A litter-control program will be implemented by the responsible federal agency or their contractor, to minimize predation on tortoises by ravens and other predators drawn to the project site.

- The project applicant will notify the BLM's authorized officer at least ten days before initiation of any project. Notification will be made to the BLM's wildlife staff in Caliente or Ely.

- BLM's wildlife staff in Caliente or Ely and the U.S. Fish and Wildlife Service's Southern Nevada Field Office must be notified of any desert tortoise death or injury due to the project implementation by close of business on the following work day.

- All appropriate Nevada Department of Wildlife permits or letters of authorization will be acquired prior to handling desert tortoises and their parts, and prior to initiation of any activity that may require handling tortoises.

- The project proponent must submit a document to the BLM within 30 days of completion of the project, showing the number of acres disturbed; remuneration fees paid; and the number of tortoises taken, which includes capture and displacement, killed, injured, and harassed by other means, during project activities.

2.5 Renewable Energy

Introduction

The Ely Field Office will follow established policy for the processing of right-of-way applications (see Section 2.4.7) for potential renewable energy development projects on public lands administered by the

BLM, and for evaluating the feasibility of installing energy systems on BLM administrative facilities and projects. Guidance also will be obtained from the BLM Wind Energy Development Programmatic EIS.

Goal

Provide opportunities for development of renewable energy sources such as wind, solar, biomass, and other alternative energy sources while minimizing adverse impacts to other resources.

Objective

To be responsive to applications for renewable energy sites and associated rights-of-way, as encouraged by current BLM policy.

Management Actions

RE-1: Review proposed renewable energy developments on a project-specific basis, considering potential resource conflicts and mitigation measures. Areas of high potential for wind and solar energy development are identified but no specific areas are designated for such development (see **Maps 2-10** and **2-11**).

RE-2: Conform wind energy development to the direction presented in the BLM Wind Energy Development Program Policies and Best Management Practices, Appendix A, Section 3.

RE-3: Wind energy developers should conduct pre-application consultation with the Ely Field Office, the appropriate Department of Defense representatives, and the Department of Homeland Security to determine possible constraints posed by military testing and training operations.

RE-4: Establish wilderness study areas as avoidance areas.

RE-5: Establish designated wilderness areas as exclusion areas.

RE-6: Establish ACECs as avoidance or exclusion areas (see Section 2.14, Special Designations).

RE-7: Increase the utilization of biomass from BLM lands and utilize tools of the Healthy Forest initiative such as Stewardship Contracting. Review proposed biomass energy development on a project-specific basis in relation to specific areas of restoration needed to restore healthy vegetation communities.

2.6 Travel Management and Off-highway Vehicle Use

Introduction

Federal regulations (Title 43 Code of Federal Regulations Subpart 8340) and BLM planning guidance require the Ely Field Office to designate all BLM-administered land as either open, limited, or closed in regard to off-road vehicle (now termed off-highway vehicle) use. These designations are designed to help

meet public demand for off-highway vehicle activities, protect natural resources, ensure public safety, and minimize conflicts among users.

The BLM designates areas as "open" for cross country vehicle use where there are no compelling resource protection needs, user conflicts, or public safety issues to warrant limiting cross-country travel.

The BLM designates areas as "limited" where it must restrict off-highway vehicle use to meet specific resource management objectives. These limitations may include: restricting the number or types of vehicles; limiting the time or season of use; allowing permitted or licensed use only; limiting use to existing roads and trails; and limiting use to designated roads and trails. The BLM may enact other limitations, as necessary to protect resources, particularly in areas of intense motorized off-highway vehicle use.

The BLM designates areas as "closed" if closure to all vehicular use is necessary to protect resources, ensure visitor safety, or reduce use conflicts.

Goals

Provide and maintain suitable access to public lands. Manage off-highway vehicle use to protect resource values, promote public safety, provide off-highway vehicle opportunities where appropriate, and minimize conflict.

Work closely with local, state, tribal, and other affected parties and other resource users to address off-highway vehicle management including land use and route designations, and monitoring and adaptive management strategies such as applying the Limits of Acceptable Change process.

Objective

To manage motorized vehicle traffic to sustain this type of use while protecting sensitive resources and providing access.

2.6.1 Parameter – Transportation Plan

Comprehensive travel and transportation planning is the BLM's interdisciplinary approach to addressing multiple-use access concerns. Comprehensive travel management planning addresses all resource use aspects and accompanying modes and conditions of travel on public lands, and is not limited to recreational off-highway vehicle activities. Providing and maintaining access to the public lands is an important public service provided by the BLM. The National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands (BLM 2001a) provides guidance in developing and implementing solutions to off-highway vehicle issues. Roads on BLM-administered lands are used by permitted users such as miners and livestock operators and by recreationists for dispersed recreation activities such as hunting, fishing, camping, rock-hounding, off-highway vehicle use, and sightseeing. Access is necessary for BLM personnel to administer the various resource management programs on public land including livestock grazing, mining,

wildlife habitat management, watershed management, recreation management, and numerous other programs. Access also is an important factor in fire suppression and fire management.

Complexity, incomplete data, and insufficient resources have made it infeasible to complete road and trail network selection and data collection for this planning effort. Collection will follow a standardized process using appropriate technology to allow staff to record road and trail conditions and characteristics.

Travel Management in the planning area will be:

- **Comprehensive:** All motorized and non-motorized travel that occurs on public lands will be considered.
- **Multi-functional:** Participation will encompass all functions within the BLM.
- **Collaborative:** Travel plans will be accomplished in a collaborative and community-based process.
- **Outcome based:** Travel systems will be designed for transportation outcomes.
- **Holistic:** Travel management implementation will be accomplished in a holistic approach that provides clear direction for access and recreation opportunities while protecting sensitive areas. This includes signs, maps, education, maintenance, construction, reconstruction, planning, field presence, law enforcement, and monitoring.

Management Actions

TM-1: Close designated wilderness to motorized and mechanized travel according to policy and enabling legislation (see **Map 2-12**).

TM-2: Close the Park Range, Blue Eagle, Antelope Range, and Riordan's Well wilderness study areas to motorized and mechanized travel.

TM-3: Incorporate the Duck Creek Basin designations into the transportation plan.

TM-4: Update the Ely Field Office Transportation Plan through subsequent implementation-level plans completed primarily along watershed boundaries. Transportation planning may move ahead of the watershed analysis process where the need for vehicle route designation is a greater priority than other watershed management needs. If this is the case, changes in route designations may be made once watershed analysis and additional site-specific NEPA is complete. Until site-specific implementation plans and route designations are complete, motorized travel will be limited to existing roads and trails except when cross-country travel is needed for safety, required for government (federal, state, and local) administrative needs, as authorized on a permit, for big game retrieval, or as otherwise officially approved. The planning process is described as follows:

- Establish an interdisciplinary team to ensure broad participation from a variety of resources.

- Define the goals and objectives of the proposed Travel and Transportation Management Plan.

- From inventory data, complete a map of the proposed planning area, and identify the baseline of roads, primitive roads, and trails. As road and trail data collection is completed, the interdisciplinary review team will analyze each route and make recommendations for designations within the specific watershed based on the following criteria. (Other criteria will be added as new issues develop in different watersheds over time.) In addition to making recommendations on designations for existing routes, the review team may recommend the development of new roads or trails based on the same criteria.

  - Route redundancy
  - Wildlife habitat needs – integrate concepts of habitat connectivity into off-highway vehicle planning to minimize habitat fragmentation
  - Visual resource management class objectives
  - Recreation opportunities
  - Administrative needs
  - Public access needs
  - Special management areas
  - Cultural Resources
  - Riparian and wetland resources

- Hold public scoping meetings. Notify the public of the meetings through local media, as appropriate, to reach the potentially affected public. Involve Resource Advisory Councils, local government, state and federal agencies, gateway communities, local motorized and non-motorized user group clubs as applicable to the planning area. Notify the meeting attendees of the objective of the proposed plan using maps and other appropriate materials to facilitate discussion regarding public issues, concerns, and access needs.

- Produce a map depicting the designated roads, primitive roads, and trails available for use.

- Implement decisions on the ground. Rehabilitate roads that have been identified through the process as closed to motorized traffic on a case-by-case basis to discourage continued motorized use. In addition, place signs and barriers and produce public maps and other appropriate forms of education and communication to inform the public of updated route designations.

TM-5: Limit motorized vehicle traffic to designated routes within desert tortoise habitat outside of designated wilderness. This action will be given a high priority for completion.

TM-6: Restrict the establishment of new permanent roads and trails in designated desert tortoise habitat. New access routes may be allowed on a temporary basis, or permanently if approved through the NEPA process.

TM-7: Reroute roads and trails where feasible to improve manageability of desert tortoise habitat.

TM-8: Coordinate with the U. S. Fish and Wildlife Service, Lincoln County Road Department, and the Nevada Department of Transportation when possible to identify roads and trails with high tortoise mortality due to impacts from vehicles. Fences and culverts may be installed along these roads and trails to allow for the safe passage of desert tortoises.

2.6.2 Parameter – Off-highway Vehicles

Management Actions

TM-9: Manage off-highway vehicles in accordance with the following designations.

- Off-highway vehicle use limited to designated roads and trails: 10,306,500 acres.
- Closed to off-highway vehicle use: 1,153,500 acres. This acreage reflects designated wilderness and wilderness study areas.

2.7 Recreation

Introduction

The Federal Land Policy and Management Act provides for recreation use of public land as an integral part of multiple use management. Dispersed, unstructured activities typify the recreational uses occurring throughout the majority of the planning area. BLM Manual 8300 directs the BLM to designate special units known as special recreation management areas. Management within special recreation management areas focuses on providing recreation opportunities that will not otherwise be available to the public, reducing conflicts among users, minimizing damage to resources, and reducing visitor health and safety problems.

Goals

Provide quality settings for developed and undeveloped recreation experiences and opportunities while protecting resources.

Conduct an assessment of current and future off-highway vehicle demand, and plan for and balance the demand for this use with other multiple uses/users.

Develop sustainable off-highway vehicle use areas to meet current and future demands, especially for urban interface areas.

Objectives

To provide a wide variety of recreation opportunities to satisfy a growing demand by a public seeking the open, undeveloped spaces that are characteristic of the planning area.

To provide visitor information to familiarize people with recreational opportunities throughout the planning area and encourage minimum impact or "Leave No Trace" and "Tread Lightly" recreational skills and ethics for recreational activities.

2.7.1 Parameter – Special Recreation Management Areas

Management Actions

REC-1: Manage for the protection of cave resources in the planning area according to the Ely Field Office Cave Management Plan.

REC-2: Manage five special recreation management areas (1 existing – Loneliest Highway, 4 new) for a broad recreation opportunity spectrum ensuring a balance of recreation experiences (see **Map 2-13**).

- The **Loneliest Highway Special Recreation Management Area** (675,123 acres);
- The new **Chief Mountain Special Recreation Management Area** (111,181 acres);
- The new **Egan Crest Special Recreation Management Area** (53,455 acres);
- The new **Pahranagat Special Recreation Management Area** (298,500 acres); and
- The new **North Delamar Special Recreation Management Area** (202,890 acres).

REC-3: Develop recreation sites, as appropriate, to proactively manage for tourism and recreation experiences.

REC-4: Write recreation area management plans for each special recreation management area identified in REC-2 to provide further management guidance at a site-specific level. The process for development of recreation area management plans is described as follows:

- Establish an interdisciplinary team to ensure broad participation.
- Hold public scoping meetings, as appropriate, to identify the potentially affected publics. Involve Resource Advisory Councils, local government, state and federal agencies, gateway communities, local user groups as applicable to the recreation management area. Prepare appropriate maps to facilitate discussion in identifying issues, concerns and desired future needs.
- Using information from the interdisciplinary team and through public scoping, identify different recreation niches to be served in the special recreation management area. Write specific objectives for the recreation opportunities that would be provided and managed. Use the recreation opportunity spectrum to describe the existing setting character and the desired future setting character.
- Collect and analyze data identified through the scoping process to assist in the development of the best set of proposed actions to meet the recreation and other resource objectives of the area.

- All recreation area management plans will incorporate guidance from Appendix C of the BLM Land Use Planning Handbook. Plans would address the following;

  - Development of specific recreation management zones within each special recreation management area.

  - Public education and interpretation. This would include working with the local communities and other land management agencies in public outreach as well as in marketing an areas recreation opportunities.

  - Monitoring.

  - Necessary support actions for the administration of the areas including any business plans, fee programs, permit programs and potential concessionaires.

REC-5: Manage areas not designated as Special Recreation Management Areas as extensive recreation management areas. A majority of the planning area is available for dispersed, backcountry, and undeveloped recreational uses.

REC-6: Manage for recreation facilities and services such as trails, trailheads, staging areas, and associated structures in extensive recreation management areas following activity-level plans and NEPA analysis for the management of designated wilderness, ACECs, the Silver State Off-highway Vehicle Trail, backcountry byways, and where appropriate, for management of recreational impacts to natural and cultural resources.

REC-7: Develop or construct recreation trails and routes in extensive recreation management areas as future needs are identified in site-specific planning.

REC-8: Conduct a study of potential routes for the Silver State Off-highway Vehicle trail in White Pine County in accordance with Subtitle E of the White Pine County Conservation, Recreation, and Development Act of 2006.

REC-9: Continue to provide visitor orientation information, interpretive activities, signage, safety programs, and other visitor outreach activities. Familiarize the public with recreational opportunities throughout the planning area and encourage minimum impact or "Leave No Trace" behavior for recreational activities.

2.7.2 Parameter – Special Recreation Permits

Management Actions

REC-10: Monitor the use and number of outfitter and guide permits for geographic regions within the planning area for 3 years following plan implementation. Following the monitoring period, issue outfitter and guide permits with special stipulations and conditions to protect resources and reduce user conflicts.

REC-11: Manage four special recreation permit areas totaling approximately 1.3 million acres to provide opportunities for competitive motorcycle special recreation permit events (see **Map 2-14**).

REC-12: Manage competitive motorcycle events on designated routes within special recreation permit areas (see **Map 2-15**).

REC-13: Designate event routes and develop additional mitigation in subsequent activity level plans.

REC-14: Manage for a maximum of two competitive truck events each calendar year.

REC-15: Manage four routes for competitive truck events. Rotate use of routes to lessen impacts.

REC-16: Permit non-competitive off-highway vehicle events on a case-by-case basis.

REC-17: Close desert tortoise ACECs to all high-speed, competitive off-highway vehicle use.

REC-18: Close desert tortoise ACECs to all types of organized non-speed, off-highway vehicle events from March 1 to June 15, and September 1 to October 31 (see **Map 2-16**).

REC-19: Limit non-speed off-highway vehicle events in desert tortoise ACECs as identified in **Table 2-13**.

Table 2-13
Summary of Limitations for Non-speed Off-highway Vehicle Events Within Desert Tortoise ACECs

Stipulations	Corridors		
	Carp-Elgin, Halfway Wash, and East Halfway Wash	Littlefield	Kane Springs Road
Dates allowed for events	June 16 – August 31 November 1 – February 28-29	November 1 – February 28-29	June 16 – August 31 November 1 – February 28-29
Maximum number of vehicles	100	300 4-wheeled vehicles or 400 motorcycles	300
Maximum number of laps	1	1	1
Maximum number of events allowed per tortoise ACEC	3	4	4

REC-20: Limit vehicle off-loading areas, if authorized within desert tortoise habitat, to areas of existing disturbance. Limit event size by the number of vehicles that can be involved without expanding the disturbed area. Terms and conditions and best management practices describe stipulations that will be attached to all special recreation permits for organized off-highway vehicle events in desert tortoise habitat.

REC-21: Implement the following management actions for desert tortoise habitat (also refer to Section 2.2, Special Status Species).

- For speed events: Event participants will be informed that they will not ride their ATVs or motorcycles in the desert after they finish an event. This includes the open desert as well as roads and trails. Failure to comply with this condition by anyone associated with a particular rider will result in the disqualification of that rider.

- For speed events including non-speed sections: If a vehicle breaks down, it will be moved to the side of the race course, avoiding damage to vegetation to the extent possible. Participants who stop to rest will pull over onto side roads or areas devoid of perennial vegetation, if possible. Riders who voluntarily retire from the event will either wait along the course for their crew to pick them up, or travel along the course to a pit area. Chase crews will be limited to retrieving vehicles that are broken down along the course. All chase vehicles must have a pit pass, retrieval pass, or other form of access permission from the Ely Field Office.

- For speed events: No spectators or spectator areas will be allowed in ACECs. Spectator vehicles will be allowed in designated spectator areas only. Spectator areas will be confined to existing disturbed areas or new areas selected in coordination with the U.S. Fish and Wildlife Service. Spectator areas are established for viewing purposes only and vehicles will be prohibited. The promoter will be required to mark the boundaries of the spectator area so that spectators can readily tell where the boundary is located. Rope or wire with warning triangles or other similar sturdy materials will be used. A monitor will be placed at each spectator area to ensure spectators remain within the designated boundary. Anyone found outside of the designated area will be subject to citation.

- For speed events: Pit crews will use only authorized pit areas. Pits shall be confined to existing disturbed areas, unless otherwise approved by the U.S. Fish and Wildlife Service. Pit areas will be marked with a sign stating that a pit pass is required. A maximum of ten pit passes will be issued to each entrant; however, in unusual cases, the Ely Field Office may authorize issuance of additional passes to meet specific needs or conditions. Under no circumstances will the issuance of additional passes create or contribute to expansion of designated pit areas. Pit passes should be identified by color or unique number, the name and date of event, and distinguish the pit to which the pass applies (i.e., main pit or course pit), and will be affixed to the windshield of each vehicle. Vehicles in the pit area without pit passes will be towed at the owner's expense. Unauthorized duplication of pit passes will result in disqualification of the entrant and this will be stated on each pass.

- For speed events including non-speed sections: All event-related activities will be confined to authorized vehicle routes, pit areas, spectator areas, and the course itself, and will not stray into vegetated areas. All major access routes leading into restricted areas will be monitored or marked closed and bannered off. Personnel will be stationed at these areas, as appropriate, to enforce access restrictions. Directional signs to spectator and pit areas will be posted at all main access points. "Race-in-progress" signs will be posted at each location where the race crosses another road. Other disqualification or hazard zones will be monitored periodically during the event.

- For all events: Ely Field Office staff will be present to check for compliance with stipulations of the race permit. The importance of staying on the race course will be stressed to all participants by the Ely Field Office and promoter.

- For all events: A sufficient number of BLM rangers, monitors, and crowd control officials, as determined by the Ely Field Office in coordination with the U.S. Fish and Wildlife Service, will be required to enforce compliance with stipulations of the event permit. Monitors may be Ely Field Office or proponent personnel and will be stationed at all disqualification or hazard areas to record any violations. As a general guideline, the Ely Field Office will provide one law enforcement officer per 50 participants to control unauthorized vehicular travel off existing roads, and ensure that habitat damage does not occur. The number of law enforcement officers present may be increased or decreased based on the event proponent's past history of event management and stipulation compliance, the estimated number of spectators, geographic setting of the event, or experience gained from previous similar events, at the discretion of the BLM's authorizing officer.

- For all events: Permittees will be responsible for trash and litter clean-up along the course and in spectator and pit areas. Stakes, flagging materials, temporary facilities, litter, and all other event-related materials will be removed from the course and pit, parking, and spectator areas. The race courses and parking areas will be restored, at a minimum, to pre-event conditions within 15 days after the event. Garbage and food will be removed from the site of the event at the end of each day, and will be disposed of in authorized sanitary landfills.

- For all events including non-speed sections: To reduce casual use of the race course, the race area may be legally closed to casual use on the day of the race. The promoter will be required to station monitors or post signs at road intersections, prohibiting public access, where the general public is likely to access the race course. A Federal Register notice providing authority to close race areas in the Ely and Las Vegas Field Offices will be issued. This will allow BLM law enforcement officers to enforce regulations. A legal notice will be published in the local newspaper, or other appropriate publication, before the permitted events take place.

- For all events: Any desert tortoise found on or adjacent to the event course will be moved into undisturbed desert within 2 miles by a qualified tortoise biologist or BLM personnel experienced or trained in the handling of tortoises, according to current U.S. Fish and Wildlife Service-approved protocol. Occupied desert tortoise burrows along the event route would be temporarily penned during the event in accordance with U.S. Fish and Wildlife Service approved protocols. Currently, the U.S. Fish and Wildlife Service-approved protocol is "Guidelines for Handling Desert Tortoises During Construction Projects." Tortoises will be deliberately moved solely for the purpose of moving them out of harm's way. Desert tortoises will not be placed on land not under the ownership of the BLM without written permission of the landowner. All personnel involved in tortoise capture will obtain appropriate permits from Nevada Department of Wildlife prior to handling any desert tortoise. All road repair crews will be accompanied by BLM personnel or their designee to ensure that no tortoises or tortoise burrows are harmed during repair operations.

- For speed events: Publicity runs will not occur within ACECs, and all event-related vehicular activity will be confined to authorized routes and the course itself and will not stray into vegetated areas.

- For all events: To the extent possible, the event course will be cleared of all unauthorized vehicles and personnel prior to each event.

- For all events: Participants in each event who violate any stipulation of that event will be disqualified from the event. Additionally, failure to comply with permit conditions by any member of the support team or spectators associated with a particular driver or rider will result in the disqualification of that driver or rider.

- For all events: Participants will be informed that passing will be limited to the disturbed areas of roads, trails, and washes and will not occur in vegetated areas adjacent to the course.

- For speed events: To help control spectators, the event promoter will station at least one person at the primary entrance to the spectator area for at least 2 hours before the start of the race and 1 hour after the start of the race. This individual will stop all cars coming into the area, give the occupants information on the limits of the spectator area, and advise them where they can and cannot park.

- For non-speed portions of speed events in ACECs: Participants will be escorted through the ACEC at a speed of no greater than 25 miles per hour.

- For organized non-off-highway vehicle events within ACECs (e.g., dog trials, model airplane events, etc.): The event area will be surveyed for desert tortoise immediately prior to the event. If desert tortoise or sign of desert tortoise is observed, the event will be moved to a different location or set up in such way as to avoid adverse effects to desert tortoise.

- Horse endurance rides will be limited to existing roads and trails. Horse endurance rides are considered speed events and will not be permitted in desert tortoise ACECs.

2.8 Livestock Grazing

Introduction

The Taylor Grazing Act, as amended and supplemented, is the legislative authority providing for livestock grazing on, and protection of, public land. The Federal Land Policy Management Act of 1976 and the Public Rangeland Improvement Act of 1978 direct the management of public land for multiple use and sustained yield. Rangeland management strategies will provide for the maintenance or restoration of watershed function, nutrient cycling and energy flow, water quality, habitat for special status species, and habitat quality for populations and communities of native plants and animals. These management strategies have been supported by development of Standards for Rangeland Health and Guidelines for Livestock Grazing for the Mojave/Southern Great Basin and Northeastern Great Basin regions, which were adopted and approved by the Secretary of Interior in 1997.

Goal

Manage livestock grazing on public lands to provide for a level of livestock grazing consistent with multiple use, sustained yield, and watershed function and health.

Northeastern Great Basin Area Standards

- Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, and land form.

- Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.

- Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.

Mojave-Southern Great Basin Area Standards

- Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.

- Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses. Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

- Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

Objective

To allow livestock grazing to occur in a manner and at levels consistent with multiple use, sustained yield, and the standards for rangeland health.

Management Actions

LG-1: Make approximately 11,246,900 acres and 545,267 animal unit months available for livestock grazing on a long-term basis.

LG-2: The following public lands are unavailable for livestock grazing:

- Mormon Mesa, Kane Springs, and Beaver Dam Slope ACECs (203,670 acres);
- Baker Archaeological Site ACEC (80 acres) and Snake Creek Indian Burial Cave ACEC (40 acres);
- Leased public lands associated with the Coyote Springs Development (6,200 acres);
- Public lands west of U.S. Highway 93 and west of the Desert National Wildlife Range (6,900 acres);and
- Private/Utah Allotment above Beaver Dam State Park (4,400 acres).

LG-3: Allow allotments or portions of allotments within desert tortoise habitat, but outside of ACECs to remain at current stocking levels as shown in **Table 2-14** unless a subsequent evaluation indicates a need to change the stocking level.

Table 2-14
Allotments Within Desert Tortoise Habitat but Outside ACECs

Allotment	Season-of-use	Active Use Animal Unit Months
Boulder Spring	10/1 to 3/31	416
Breedlove	3/1 to 2/28	698
Buckhorn	3/1 to 3/28	3,370
Delmar	3/1 to 2/28	5,558
Garden Spring	10/1 to 5/31	2,809
Gourd Springs	10/1 to 5/31	3,458
Grapevine	3/1 to 2/28	349
Henrie Complex	3/1 to 2/28	1,380
Lime Mountain	10/1 to 5/15	6,754
Lower Lake East	3/1 to 2/28	640
Lower Lake West	3/1 to 2/28	1,247
Lower Riggs	5/1 to 3/24	1,408
Mormon Peak	3/1 to 2/28	600
Pahranagat East	8/1 to 5/31	511
Pahranagat West	10/1 to 5/31	2,144
Snow Spring	10/1 to 5/31	3,567
Summit Spring	10/1 to 5/15	715
Terry[1]	11/1 to 5/31	1,511
White Rock	10/1 to 5/31	2,880

[1] Southern portion of the Terry Allotment has a season-of-use of 11/1 to 3/15 (critical desert tortoise habitat).

Source: BLM, Caliente Field Station data, 1996.

LG-4: Continue to monitor and evaluate allotments to determine if they are continuing to meet or are making significant progress toward meeting the standards for rangeland health. **Table 2-15** shows the current grazing preference, season-of-use, and kind of livestock for those allotments that currently are

evaluated for meeting standards, are making progress towards achieving the standards, or are in conformance with the policies as determined either through the allotment evaluation process or associated with fully processed term permit renewals. Changes, such as improved livestock management, new range improvement projects, and changes in the amount and kinds of forage permanently available for livestock use, can lead to changes in preference, authorized season-of-use, or kind of livestock. Such changes will continue to meet the RMP goals and objectives, including the standards for rangeland health.

Table 2-15
Allotments Evaluated for Meeting Standards of Rangeland Health

Allotment Name	Allotment Number	Public Acres	Season of Use	Total Active Animal Unit Months[1]
Badger Spring	00823	24,125	4/15 to 11/30	1,412
Baker Creek	10125	55,515	Cattle: 10/16 to 6/18, Sheep: 12/01 to 04/30	4,311
Bassett Creek	10114	7,328	3/1 to 2/28	591
Bastian Creek	10121	13,527	3/1 to 2/28	1,778
Batterman Wash	11018	39,878	Cattle: 11/15 to 6/15, Sheep: 12/1 to 4/15	2,093
Becky Creek	00404	12,904	11/1 to 3/15	671
Becky Springs	10101	40,621	Cattle: 11/15 to 2/28, Sheep: 11/1 to 4/30	3,842
Bennett Creek	00409	1,473	6/1 to 10/31	37
Bennett Spring	21006	48,264	10/16 to 4/30	3,498
Big Indian Creek	00410	6,144	7/1 to 10/19	99
Big Rock Seeding	00428	1,862	5/1 to 7/15, 9/1 to 2/28	621
Big Six Well	00812	2,412	12/1 to 5/31	140
Black Bluff	10122	32,200	Cattle: 9/1 to 5/15, Sheep: 9/1 to 4/15	1,668
Black Canyon	11007	8,438	10/16 to 4/30	1,105
Black Horse	10123	15,394	3/1 to 2/28	510
Brown Knoll	00831	10,366	11/1 to 5/31	161
Butte Seeding	00507	976	6/1 to 10/30	275
Cattle Camp/Cave Valley	00903	75,846	5/15 to 11/30	6,878
Cave Valley Ranch	00904	38,524	5/1 to 10/31	2,403
Cave Valley Seeding	00908	942	5/1 to 8/10	200
Cherry Creek	00403	153,107	5/1 to 2/28	6,562
Chimney Rock	00914	20,037	Cattle and Sheep: 5/1 to 11/1	1,233
Chin Creek	10104	148,017	Cattle: 11/1 to 5/31, Sheep: 11/1 to 10/31	13,115
Chokecherry	10131	32,334	10/16 to 6/5	3,327
Cleveland Ranch	10119	11,656	11/1 to 2/28	1,021
Coal Valley Lake	10108	115,176	Cattle: 9/1 to 5/15, Sheep: 11/1 to 4/10	4,821
Cold Creek	00603	62,103	Cattle: 4/16 to 10/31, Sheep: 11/01 to 03/31	5,303
Cold Spring	00909	10,253	5/1 to 9/30	1,265
Connors Summit	00915	27,316	3/1 to 2/28	2,449
Copper Flat	00427	40,058	Cattle and Sheep: 4/15 to 11/1	3,033
Cottonwood	21021	62,145	5/1 to 10/31	1,296
Cottonwood	11015	42,172	10/1 to 12/31, 4/1 to 5/31	1,177
Cottonwood	00132	49,975	11/1 to 6/15	2,248
Cove	00817	26,538	1/1 to 4/30	1,544
Crescent (N-4)	01028	61,502	Cattle: 3/1 to 2/28, Sheep: 10/1 to 2/28	951
Crestline	11023	2,415	3/1 to 2/28	55
Crossroads	21024	19,201	5/1 to 10/31	689
Crystal Springs	21025	7,596	8/1 to 5/31	437
Dark Peak	00827	19,477	Cattle and Sheep: 4/1 to 11/1	1,826
Dee Gee Spring	00815	4,975	12/1 to 5/31	200
Deep Creek	10103	23,932	11/1 to 5/15	2,934
Devil's Gate	10115	17,686	11/15 to 4/30	2,316
Douglas Point	00810	19,318	4/1 to 5/31	368
Dry Farm	11024	32,464	Cattle: 6/1 to 9/30, Sheep: 10/1 to 4/15	1,530
Dry Mountain	00609	27,552	Cattle and Sheep: 10/1 to 4/1	1,757

Table 2-15 (Continued)

Allotment Name	Allotment Number	Public Acres	Season of Use	Total Active Animal Unit Months[1]
Duckcreek	00423	9,531	6/1 to 10/31	498
Duckcreek Basin	00419	3,301	4/1 to 9/30	436
Duckcreek Flat	00412	32,406	8/1 to 6/15	1,347
Duckwater	00701	807,662	Cattle and Sheep: 3/1 to 2/28	23,364
East Wells	00830	3,542	12/1 to 5/31	122
Enterprise	11031	21,585	5/1 to 10/31	1,261
Forest Moon	01010	108,273	Cattle: 6/1 to 3/31, Goats and Sheep: 1/1 to 3/31, 8/16 to 10/15	2,263
Fox Mountain	11001	73,412	11/1 to 4/10	6,322
Geyser Ranch	01101	237,413	3/1 to 2/28	12,308
Gilford Meadows	00424	4,666	5/1 to 9/30	420
Giroux Wash	00826	48,200	Cattle: 4/1 to 12/15, Sheep: 4/1 to 11/1	5,326
Gold Canyon	00413	23,640	6/20 to 11/30	1,068
Goshute Basin	00402	9,397	Cattle: 7/1 to 9/1, Sheep: 7/1 to 10/15	633
Goshute Mountain	10102	5,693	11/1 to 3/31 (Administered by Elko Field Office)	465
Gourd Spring[2]	01071	57,700	10/1 to 5/31	3,458
Hamblin Valley	00133	105,831	Cattle and Sheep: 11/1 to 5/31	8,177
Hardy Spring	11022	124,008	10/15 to 5/15	3,478
Henrie Complex[2]	11034	165,060	11/1 to 4/30	1,373
Horse Haven	00620	25,000	5/1 to 9/30	1,056
Indian Creek	00401	3,167	7/1 to 9/1	177
Indian George	10112	41,650	10/16 to 4/15	2,860
Indian Jake	00804	47,168	3/15 to 6/15, 9/1 to 2/28	2,948
Irish Mountain	11006	83,465	Cattle: 3/1 to 2/28, Sheep: 10/1 to 2/28	3,141
Jake's Unit Trail	00821	15,056	4/1 to 4/30, 11/1 to 11/30	832
Klondike	01085	7,072	10/16 to 4/30	678
Lake Area	00910	27,556	Cattle and sheep; 5/1 to 11/1	2,978
Little White Rock	00913	13,012	Cattle and Sheep: 5/1 to 11/01	904
Lovell Peak	00406	2,360	7/1 to 9/30	105
Lower Lake West[2]	11013	57,000	3/1 to 2/28	1,247
Majors Allotment	10126	99,193	Cattle: 3/1 to 5/31, Sheep: 5/1 to 10/31	12,535
Maybe Seeding	00828	941	12/1 to 5/31	300
McCoy Creek	10135	5,289	3/1 to 2/28	508
McDermitt Creek	00505	2,703	Administered by Elko Field Office	630
McQueen Flat	00805	10,403	4/15 to 11/15	496
Meadow Creek	10113	8,273	3/1 to 2/28	445
Medicine Butte	00501	287,368	Cattle: 3/1 to 2/28, Sheep: 4/15 to 11/15	7,232
Middle Steptoe	00411	2,361	7/1 to 10/7	173
Mill Spring	10109	5,587	4/1 to 9/30	341
Monte Cristo	00614	6,138	6/21 to 9/18	1,125
Moorman Ranch	00802	123,491	3/1 to 2/28	10,099
Muncy Creek	20111	207,906	3/1 to 2/28	12,384
Murphy Gap	10110	35,210	Cattle and Sheep: 10/1 to 4/15	1,951
N4/N5	01049	43,500	3/1 to 2/28	825
Narrows	11002	6,909	12/1 to 2/28	535
Needles	11016	85,500	Cattle: 10/1 to 2/28, Sheep: 10/1 to 4/15	2,679
Newark	00608	218,105	Cattle: 11/1 to 10/31, Sheep: 11/1 to 4/1	9,061
North Butte	00502	26,467	2/15 to 4/15, 8/1 to 10/31	180
North Chokecherry	20134	8,692	10/15 to 05/15	770
North Cove	00816	25,446	12/1 to 5/31	1,004
North Steptoe	00405	12,701	10/1 to 3/15	700
Oak Wells	01051	29,139	3/1 to 2/28	511
Pleasant Valley	00110	5,113	4/15 to 9/30	405
Preston	00806	10,250	4/18 to 5/31	166
Preston Lund Trail	00822	10,856	4/1 to 4/30, 11/1 to 11/30	1,569
Rabbit Spring	01057	20,975	6/1 to 3/15	884
Railroad Pass	00601	27,025	Cattle: 6/1 to 9/30, Sheep: 4/5 to 11/15	3,542
Red Hills	00108	35,489	11/1 to 4/30	2,600
Rock Canyon	00808	7,256	12/1 to 5/31	432
Ruby Valley	00619	20,081	3/1 to 4/3, 11/1 to 2/28	467
Sampson Creek	10105	13,232	5/1 to 9/30	1,327
Sand Springs	01066	249,685	3/1 to 2/28	7,005
Sawmill Bench	00807	319	11/10 to 12/17	114
Schellbourne	00407	16,316	10/15 to 5/15	685
Schlarman	01068	5,345	11/1 to 4/30	240
Sheep Flat	01069	74,171	6/1 to 9/30	1,977

Table 2-15 (Continued)

Allotment Name	Allotment Number	Public Acres	Season of Use	Total Active Animal Unit Months[1]
Sheep Pass	00905	26,300	4/1 to 12/31	1,150
Sheep Springs	01070	31,077	6/1 to 3/15	409
Sheep Trail Seeding	00829	564	12/1 to 5/31	200
Shoshone Unit Trail	10140	16,517	5/1 to 5/5, 5/31 to 6/4, 10/25 to 10/29	483
Silverado	00623	6,284	11/15 to 2/13	338
Six Mile	00613	21,335	Cattle: 4/15 to 10/31, Sheep: 11/1 to 4/15	1,209
Smith Creek	20117	68,072	11/16 to 6/15	5,355
Sorensen Well	00818	5,880	12/1 to 5/31	193
South Butte	00504	26,081	4/15 to 2/28	396
South Butte Seeding	00506	968	5/1 to 10/31	245
South Coal Valley	10120	46,701	Cattle: 9/1 to 5/15, Sheep: 12/1to 4/15	2,205
South Hiko Six-Mile	11008	33,018	3/1 to 2/28	858
South Pancake	00615	31,088	3/15 to 4/30, 11/15 to 1/15	1,155
South Spring Valley	10130	79,323	Cattle: 2/1 to 6/15, Sheep: 5/1 to 6/15, 9/1 to 9/30	6,329
Stephen's Creek	10118	3,784	Cattle and Sheep: 6/1 to 10/31	318
Steptoe	00415	44,025	3/1 to 2/28	2,836
Strawberry	00607	21,135	6/1 to 10/30	1,032
Sunnyside	21023	219,519	6/1 to 10/31	5,402
Swamp Cedar	00832	6,333	12/1 to 5/31	192
Taft Creek	10116	28,294	Cattle: 4/15 to 11/30, Sheep: 11/1 to 2/28	1,831
Tamberlaine	00901	31,692	3/15 to 10/15	2,002
Thirty Mile Spring	00503	178,716	4/15 to 2/28	8,405
Timber Mountain	01004	43,839	Cattle and Sheep: 11/1 to 4/10	2,373
Tippett	10106	200,041	Cattle: 3/1 to 2/28, Sheep: 4/16 to 12/15	12,800
Tippett Pass	20107	77,161	Cattle: 11/1 to 5/31, Sheep: 10/1 to 6/15	8,177
Uvada	01079	13,608	5/1 to 10/31	463
Warm Springs	00606	306,971	3/01 to 2/28	7,744
Warm Springs	01080	1,401	3/1 to 2/28	74
Warm Spring Trail	00622	16,385	3/1 to 3/31, 4/15 to 5/1, 11/1 to 11/30, 11/15 to 12/1	2,481
Well's Station	00819	5,880	12/1 to 5/31	312
West Schell Bench	00433	25,915	5/1 to 11/1	1,389
West Timber Mountain	11020	12,570	12/1 to 4/15	735
White River	11009	9,725	10/1 to 5/15	501
White River Trail	11005	19,300	11/1 to 4/20	1,505
White Rock[2]	01078	32,916	10/1 to 5/31	2,880
White Rock	00902	80,513	3/1 to 12/31	7,473
Willard Creek	10127	10,246	4/15 to 11/30	1,132
Willow Springs Addition	00825	602	6/1 to 7/1	114
Willow Springs Seeding	00824	300	8/31 to 10/6	70
Willow Springs	10129	46,967	3/1 to 2/28	6,608
Wilson Creek	01201	1,077,994	Cattle and Sheep: 3/1 to 2/28	48,250
Worthington Mountain	11021	77,798	Cattle: 1/13 to 5/31, Sheep: 12/15 to 4/10	5,641
Total		**8,408,789**		**424,602**

[1] There are a total of approximately 190,000 suspended animal unit months. These are a matter of record at the Ely Field Office.
[2] Allotments with acres, animal unit months, or season of use adjusted, as a result of the 2000 Caliente Management Framework Plan Amendment for Management of Desert Tortoise Habitat.

LG-5: Maintain the current grazing preference, season-of-use, and kind of livestock until the allotments that have not been evaluated for meeting or making progress toward meeting the standards or are in conformance with the policies are evaluated (see **Table 2-16**). Depending on the results of the standards assessment, maintain or modify grazing preference, seasons-of-use, kind of livestock, and grazing management practices to achieve the standards for rangeland health. Changes, such as improved livestock management, new range improvement projects, and changes in the amount and kinds of forage permanently available for livestock use, can lead to changes in preference, authorized season-of-use, or kind of livestock. Ensure changes continue to meet the RMP goals and objectives, including the standards for rangeland health.

Table 2-16
Allotments Not Evaluated for Meeting Standards of Rangeland Health

Allotment Name	Allotment Number	Public Acres	Season of Use	Total Active Animal Unit Months[1]
Applewhite	21001	28,448	3/1 to 2/28	562
Ash Flat	21002	3,247	5/1 to 3/24	74
Bald Mountain	21003	269,723	Cattle and Horses: 3/1 to 2/28	5,811
Barclay	11004	79,621	5/16 to 11/15	1,971
Big Wash[2]	03498	5,218	Closed by U.S. Forest Service	0
Black Hills	21008	3,610	3/1 to 2/28	156
Boulder Spring[3]	21009	13,537	10/1 to 3/31	416
Breedlove[3]	11010	89,500	3/1 to 2/28	698
Buckboard	21011	10,842	3/1 to 2/28	263
Buckhorn	21012	82,968	3/1 to 2/28	3,370
Caliente	21014	2,008	3/1 to 2/28	40
Choke Cherry Forest Service[2]	03496	9,898	Closed by U.S. Forest Service	0
Cliff Springs	21016	35,821	3/1 to 2/28	2,043
Clover Creek	21015	22,876	11/1 to 4/30, 5/1 to 10/27	613
Comet	21018	9,146	3/1 to 2/28	214
Condor Canyon	21019	44,035	3/1 to 1/24	676
Corta[4]	10033	1,130	Administered by Battle Mountain Field Office	128
Crescent (N-5)	01062	36,689	11/1 to 4/30	1,540
Currant Ranch[4]	00153	10,500	11/1 to 2/28	177
Deer Lodge	21026	6,380	3/1 to 2/28	167
Delamar[3]	01083	203,000	3/1 to 2/28	5,558
Douglas Canyon	00811	11,422	6/9 to 8/30	175
Ely Springs Cattle	11029	55,168	3/1 to 2/28	4,248
Ely Springs Sheep	21030	22,927	10/16 to 5/15	1,802
Gallagher Gap	00418	3,299	11/1 to 2/28	169
Garden Spring[3]	01065	38,823	Cattle and Horses: 10/1 to 5/31	2,809
Georgetown Ranch	00422	23,688	3/1 to 5/31, 10/1 to 11/30	1,675
Goat Ranch	00421	5,524	4/22 to 9/4	213
Grapevine[3]	11032	22,000	3/1 to 2/28	349
Haggerty Wash	00907	904	6/15 to 10/15	194
Haypress	11033	7,843	5/1 to 10/31	154
Heusser Mountain	00416	33,956	5/1 to 3/31	1,486
Highland Peak	11035	45,542	10/16 to 5/15	3,704
Highway	01036	4,251	3/1 to 2/28	118
Lexington[2]	03497	7,843	Closed by U.S. Forest Service	0
Lime Mountain[3]	21005	67,144	10/1 to 5/15	6,754
Little Mountain	00414	18,575	Relinquished	0
Lower Lake East[3]	21022	41,800	3/1 to 2/28	640
Lower Riggs[3]	01087	19,569	5/1 to 3/24	1,408
Mahogany Peak	01040	28,441	3/1 to 2/28	718
Mallory Springs	00136	12,186	Cattle: 6/1 to 8/31, Sheep: 9/1 to 5/31	940
Maverick Springs	00621	42,679	3/1 to 2/28	1,500
McCutcheon Springs	01054	18,276	3/1 to 2/28	446
McGuffy	01043	22,115	3/1 to 2/28	298
Meadow Valley	01041	3,971	Cattle: 11/1 to 4/30, Horses: 3/1 to 2/28	56
Mormon Peak[3]	01044	64,700	6/1 to 3/31	600
Murphy Wash[2]	03503	54,307	6/5 to 9/10	728
Mustang	01047	23,877	3/1 to 2/28	1,134
Mustang Flat	01048	5,987	5/1 to 10/31	147
Negro Creek	00120	31,985	3/1 to 2/28	3,727
North Steptoe Trail	00426	1,181	9/15 to 10/15, 3/1 to 3/30	253
Oak Springs	01050	193,609	3/1 to 2/28	9,268
Pahranagat East[3]	11027	34,146	8/1 to 5/31	511
Pahranagat West[3]	01081	70,138	10/1 to 5/31	2,144
Pahroc	01052	117,443	3/1 to 2/28	4,783
Panaca Cattle	01053	16,275	3/1 to 2/28	453
Peck	01055	17,741	3/1 to 2/28	397
Pennsylvania	01056	30,971	5/1 to 10/31	588
Pine Cone	01045	28,265	8/1 to 2/28	1,205
Pine Creek	11012	34,693	5/1 to 12/31	2,667
Ploche	01086	13,440	3/1 to 2/28	402
Rainbow	11028	7,033	3/1 to 2/28	665

Table 2-16 (Continued)

Allotment Name	Allotment Number	Public Acres	Season of Use	Total Active Animal Unit Months[2]
Rattlesnake	01058	28,426	10/16 to 5/30	1,180
Red Bluff	01059	10,000	9/9 to 2/28, Administered by Tonopah Field Station	34
Road Side	01061	1,123	12/1 to 2/28	32
Rocky Hills	--	4,375	Relinquished	0
Sacramento Pass/Strawberry[4]	00123	40,582	5/1 to 12/30	2,008
Sand Hills	01088	11,585	6/1 to 10/31	229
Sawmill Canyon	01067	9,177	3/1 to 2/28	181
Schoolhouse Spring	00420	7,033	4/1 to 2/28	191
Scotty Meadows	10128	17,322	6/1 to 9/30	1,227
Second Creek	00417	7,776	5/1 to 2/28	358
Shadow Wells	01060	17,862	11/1 to 4/30	577
Shingle Creek[2]	03502	9,302	6/20 to 9/10	575
Shingle Pass	00906	74,788	5/16 to 10/15	2,724
Simpson	21004	8,379	3/1 to 4/30	747
Six Mile	01073	34,531	3/1 to 2/28	859
Six Mile Ranch	00814	2,232	4/1 to 4/30, 9/15 to 2/28	162
Snake Creek[2]	03499	3,086	Closed by U.S. Forest Service	0
Snow Springs[3]	01074	44,042	10/1 to 5/15	3,567
Soap Creek[2]	03508	1,284	Closed by U.S. Forest Service	0
Summit Spring[3]	01077	18,035	10/1 to 5/31	715
Terry[5]	--	30,163	11/1 to 5/31, Administered by St. George Field Office	1,511
Tom Plain	00803	77,039	3/1 to 2/28	6,039
White Hills	01082	2,755	12/1 to 2/28	101
White Pine Seeding	00602	4,305	Administered by Elko Field Office	258
Whiteman Creek	00408	5,417	5/1 to 2/28	384
Wild Horse	11017	18,014	3/1 to 2/28	315
Total		**3,247,411**		**120,665**

[1] There are a total of approximately 190,000 suspended animal unit months. These are a matter of record at the Ely Field Office.

[2] Eight allotments transferred to the BLM through the White Pine County Conservation, Recreation, and Development Act of 2006; availability of two of these allotments for livestock grazing will be determined.

[3] Allotments with acres, animal unit months, or season of use adjusted, as a result of the 2000 Caliente Management Framework Plan Amendment for Management of Desert Tortoise Habitat.

[4] Occur outside the planning area.

[5] Southern portion of Terry allotment has a season-of-use of 11/1 through 3/15 (critical desert tortoise habitat).

LG-6: When changes to BLM grazing permits are being considered in Rocky Mountain and desert bighorn sheep occupied habitat, manage domestic sheep and goats in accordance with current BLM policy.

LG-7: Manage allotments that become vacant, for any reason including relinquishment by the permittee, to best meet site-specific and land use planning objectives. Authorized uses may include new grazing permits, forage reserve allotments, dedication to purposes that preclude livestock grazing, and others such as offsetting allotments for permittees who are displaced for any reason.

LG-8: Implement the following management actions for desert tortoise habitat outside the Mormon Mesa, Kane Springs, and Beaver Dam Slope ACECs (also refer to Section 2.2, Special Status Species; and Section 2.4, Lands and Realty).

- From March 1 to October 31, livestock use may occur as long as forage utilization management levels do not exceed 40 percent on key perennial grasses, shrubs and perennial forbs; and between November 1 and February 28/29, provided forage utilization management levels do not exceed 50 percent on key perennial grasses and 45 percent on key shrubs and perennial forbs. If the utilization

management levels are reached, livestock will be moved to another location within the allotment or taken entirely off the allotment.

- All vehicle use in desert tortoise habitat associated with livestock grazing, with the exception of range improvements, will be restricted to existing roads, trails, and large sandy washes. Permittees and associated workers will comply with posted speed limits on access roads. No new access roads will be created.

- Tortoises discovered by the permittee to be in imminent danger during routine cattle movement or maintenance activities, may be removed out of harm's way by the permittee provided the permittee has received the required training.

- Use of hay or grains as a feeding supplement will be prohibited within grazing allotments. Mineral and salt blocks are authorized subject to Title 43 Code of Federal Regulations Section 4130.6-2(c) and should be placed in previously disturbed areas wherever possible to minimize impacts to desert tortoise and its habitat. In some cases, blocks may be placed in areas that have a net benefit to tortoise by distributing livestock more evenly throughout the allotment, and minimizing concentrations of livestock that result in habitat damage.

- Regular site visits will be made to available allotments that are actively grazed by livestock by BLM rangeland specialists and other qualified personnel, including U.S. Fish and Wildlife Service biologists, to ensure compliance with the terms and conditions of the grazing permit. Any item in non-compliance will be rectified by the BLM and reported to the U.S. Fish and Wildlife Service.

- Livestock levels will be adjusted to reflect significant, unusual climatic conditions that result in a dramatic change in range conditions (e.g., drought and fire) and negatively impact the ability of the allotment to support both tortoise and cattle.

- The permittee is required to take action to remove any livestock that move into areas unavailable for grazing back into the available areas of the allotment. If straying of livestock becomes problematic, the BLM, in consultation with the U.S. Fish and Wildlife Service, will take measures to ensure straying is prevented.

2.9 Forest/Woodland and Other Plant Products

Introduction

The Federal Land Policy and Management Act of 1976 directs BLM to ". . . manage public lands according to the principles of multiple-use and sustained yield . . ." One of the multiple uses of resources within the planning area includes the use of forest/woodland areas for fuelwood collection, pinyon nut harvesting, Christmas tree harvesting, posts and poles, seed collection, cactus and yucca collection, and other vegetation product collection. Vegetation management tools (e.g., prescribed fires, thinning) will allow for the regeneration of forest/woodland vegetation types and the selective thinning of these communities to improve

their overall health within the planning area and achievement of applicable Resource Advisory Council standards and the desired ranges of conditions for various types of woodlands. Commercial collection of cacti, yucca, and evergreen trees within the state also is regulated under Nevada Revised Statutes (N.R.S. 527.060.120) and the Nevada Administrative Code Chapter 527.

Goal

Provide opportunities for traditional and non-traditional uses of vegetation products on a sustainable, multiple-use basis.

Objective

To make healthy forest/woodlands and populations of other plants available for the responsible harvesting of forest/woodland and plant products by the public, commercial interests, and American Indians and allow access for traditional and non-traditional uses.

2.9.1 General Forest/Woodland and Other Plant Product Management

Management Actions

FP-1: Do not allow bristlecone pine, limber pine, or swamp cedar to be harvested except for education, scientific, research purposes; for salvage; or for the purpose of preventing or limiting insect or disease problems. Do not permit the cutting of rare or unique trees and shrubs including bearing trees.

FP-2: Allow the sale and salvage of desert vegetation (primarily cactus and yucca) based on NEPA analysis and, if necessary, Section 7 consultation with the U.S. Fish and Wildlife Service.

FP-3: Allow the harvest of desert vegetation for educational or scientific research purposes.

FP-4: Limit vehicle traffic associated with woodland and vegetation product harvesting to existing roads and trails except in areas where completed site-specific analysis or activity plans (e.g., watershed analysis, forestry management plans, etc.) allow. Specific areas would be identified as a condition of the permits/contracts for large quantity sales of vegetation products. These areas generally would be in locations where such activities would assist in meeting watershed objectives.

2.9.2 Parameter – Fuelwood Collection

Management Actions

FP-5: Allow collection of fuelwood from both live and dead trees for personal use (pinyon-juniper/mountain mahogany) and commercial use (pinyon/juniper) throughout the planning area, except in closed areas (e.g., wilderness study areas, designated wilderness).

FP-6: Allow harvest/collection of other tree species (e.g., aspen, ponderosa pine, and white fir) on a case-by-case basis or through the watershed analysis process.

2.9.3 Parameter – Pinyon Pine Nut Harvesting

Management Actions

FP-7: Allow personal use collection of pine nuts throughout the planning area.

FP-8: Utilize commercial harvest sale areas that have been designated throughout the planning area after coordination with American Indian tribes to avoid traditional use areas. Sell these sites through a competitive bidding process. When the competitive bidding is complete and the sales are awarded, the specific sale area will be documented on the permittee's contract.

2.9.4 Parameter – Christmas Tree Harvesting

Management Actions

FP-9: Make pinyon, juniper, and white fir available for personal use throughout the planning area, except in closed areas (e.g., wilderness study areas, designated wilderness).

FP-10: Allow commercial use to only pinyon and juniper throughout the planning area.

FP-11: Make white fir available for commercial harvest if future site-specific planning activities (e.g., watershed analysis) determine that harvest will assist in achieving the desired range of conditions, health and resiliency of the stand, and site-specific objectives for the site.

2.9.5 Parameter – Post and Pole Harvesting

Management Actions

FP-12: Make pinyon and juniper available for personal and commercial use throughout the planning area, except in closed areas.

FP-13: Allow the use of aspen, fir, and spruce on a case-by-case basis, and if harvest will improve the health of the stand.

FP-14: If harvest will assist in achieving site-specific objectives, designate areas open to harvest with specified limitations until desired conditions are achieved.

2.9.6 Parameter – Seed Collection

Management Actions

FP-15: Allow commercial collection on a case-by-case basis.

FP-16: Do not allow harvesting of more than 50 percent of the annual seed crop available in any one area.

FP-17: Do not allow seed harvest of special status plants except for research, federally/state endorsed propagation for restoration, or case-specific small scale commercial/personal use regulated under permit process. All special status seed harvest will be monitored by the Ely Field Office, in the form of permit requirements.

FP-18: Encourage hand collection methods, and allow mechanical collection on a limited basis.

2.9.7 Parameter – Other Vegetation Products (i.e., wildings, boughs, etc.) Collection

Management Actions

FP-19: Allow personal and commercial collection on a case-by-case basis.

FP-20: Specify areas for collection on the vegetation sales contract.

FP-21: Limit collection methods to those with the least surface disturbing activities.

2.9.8 Parameter – Biomass Products

FP-22: Allow biomass harvest in areas where vegetation projects require vegetation removal and meet project objectives.

2.10 Geology and Mineral Extraction

Introduction

The general mining laws give the public the right to locate and develop mining claims on public land. The Mining and Minerals Policy Act of 1970 declares that it is the continuing policy of the federal government to foster and encourage private enterprise in the development of domestic mineral resources. Section 102 of the Federal Land Policy and Management Act of 1976 directs that the public land will be managed in a manner that recognizes the Nation's need for domestic sources of minerals and other commodities from the public lands, while protecting scientific, scenic, historic, archeological, ecological, environmental, air and atmospheric, and hydrologic values. The BLM's mineral and national energy policy states that public lands shall remain open and available for mineral exploration and development unless withdrawal or other administrative action is justified in the national interest.

Federally owned minerals in the public domain are classified into three categories: leasable minerals, locatable minerals, and mineral materials as discussed below. The classifications are based on acts passed by the U.S. Congress. These acts provide the opportunity for the public to explore for, develop, and produce publicly owned minerals.

Leasable minerals are those minerals on public lands where the land is leased to individuals for their exploration and development. The leasable minerals have been subdivided into two classes, fluid and solid. Fluid minerals include oil and gas; geothermal resources and associated by-products; and oil shale, native asphalt, oil impregnated sands, and any other material in which oil is recoverable only by special treatment after the deposit is mined or quarried. Solid leasable minerals are those leased under the mineral leasing acts and those hardrock minerals leased under Reorganization Plan No. 3 of 1946 (acquired lands). Solid leasable minerals are specific minerals such as coal and phosphates. All minerals on acquired lands are considered to be leasable minerals. Leasable minerals are associated with the following laws: Mineral Leasing Act of 1920, as amended and supplemented, Mineral Leasing Act for Acquired Lands of 1947, as amended, and the Geothermal Steam Act of 1970, as amended.

Locatable minerals are those "minerals acquired through the General Mining Law of 1872, as amended" (National Research Council 1999). Locatable minerals can include gold, silver, platinum, lead, zinc, magnesium, nickel, tungsten, bentonite, barite, feldspar, uranium, and uncommon varieties of sand, gravel, and stone. Locatable minerals on public lands (if open to mineral entry) can be acquired by initially staking claims over the deposits. However, before mining can occur, permits from various state and federal agencies must be obtained.

Mineral materials are common varieties of minerals such as sand, gravel, rock, cinders, and common clay. Mineral materials are disposed of through sales contracts or free use permits and are regulated under the Mineral Material Act of July 23, 1947, as amended, and the Surface Use and Occupancy Act of July 23, 1955. Disturbance of public lands in association with mineral material sales is considered a discretionary activity. This means that the action may be denied if resource concerns cannot be protected or mitigated.

Goal

Allow for meeting the Nation's energy needs while providing environmentally responsible production of fluid leasable minerals, and geophysical exploration for energy resources on public lands. Allow development of solid leasable and locatable minerals in a manner to prevent unnecessary or undue degradation. Allow development of mineral materials in a manner that will prevent unnecessary or undue degradation, meet public demand, and minimize adverse impacts to other resource values.

Objective

To provide for the responsible development of mineral resources to meet local, regional, and national needs, while providing for the protection of other resources and uses.

2.10.1 Parameter – General Geology and Mineral Management

Management Actions

MIN-1: Implement the following management actions for desert tortoise habitat (also refer to Section 2.2, Special Status Species; and Section 2.4, Lands and Realty). This decision applies to fluid and solid leasable minerals, locatable minerals and mineral materials parameters.

- Within desert tortoise ACECs: Exploration will be allowed only on existing roads and trails. Unless otherwise authorized, access to mineral operations will be limited to existing roads and trails. All proposed surface disturbance and vehicular travel will be limited to the approved operation plan and access route. Upon determination of an impending field development, a transportation plan will be requested to reduce unnecessary access roads. No blading or other dirt work will be allowed without prior approval of the BLM authorized officer. A qualified biologist will monitor cross country travel for tortoise and will move them as needed.

- Within desert tortoise ACECs: Drilling fluids and cuttings will be contained in portable mud pits or lined reserve pits in all operations.

- Within desert tortoise habitat: Vibriosis, drill hole shot, or surface shot will not be completed within 100 yards of known tortoise burrows.

- When a permitted activity results in residual impacts to desert tortoise habitat, compensation will be required. The compensation rate will be determined through the NEPA process for each proposed action. The amount to be paid will be calculated according to the formula identified in the "Compensation for the Desert Tortoise" report approved by the Desert Tortoise Management Oversight Group in November 1991.

- Ensure, through the review of the proposed action and development of the mitigation measures, that the impacts from the proposed action will not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. The operator, U.S. Fish and Wildlife Service, and BLM will need to reach concurrence that proposed actions are below the jeopardy or adverse modification threshold. If it is determined that the proposed action will not be below the jeopardy or adverse modification threshold, the project will not go forward.

2.10.2 Parameter – Fluid Leasable Minerals

Introduction

Areas available for fluid mineral leasing are identified through management determinations during the planning process. These determinations designate the land as closed or open to leasing, and if open, what stipulations should be applied to the lease. All leases are subject to the terms and conditions of the standard lease form which allows for up to 60-day timing deferments and 200 meter (656 feet) displacements

(Title 43 Code of Federal Regulations Section 3101.1-2). Stipulations modify the lease rights beyond the standard lease terms. Constraints are considered to be either major, such as no surface occupancy, or moderate. Moderate constraints consist of timing limitations (seasonal restrictions) and controlled surface use restrictions. Timing limitations indicate that a leased area generally is open to development activities except during a specified period of time to protect identified resource values such as wildlife. Controlled surface use stipulations may require operating constraints to protect resources year round; for example, staying on existing roads.

A lease notice may be attached to the lease to inform potential lessees of important resource issues under existing laws and regulations that may result in delays associated with subsequent permitting, and appropriate mitigation of those resource concerns. Resources are further protected during operational activities through the application of best management practices, as contained in the Gold Book (U.S. Department of the Interior and U.S. Department of Agriculture 2006) and the development of site-specific conditions of approval.

Under certain conditions, waivers, exceptions, and modification to lease stipulations may be granted. The circumstances for granting an exception, waiver, or modification are attached to each stipulation.

Any lease stipulation may be waived or modified as per Title 43 Code of Federal Regulations Section 3101.1-4. A waiver or modification is allowable only if the authorized officer determines that the factors leading to its inclusion in the lease have changed sufficiently to make requirements of the stipulation(s) no longer justified, or mitigation contained in individual permits will preclude unacceptable impacts. If the waiver or modification is of major concern to the public, such modification will be subject to a 30-day public review. This review can be held concurrent with the required 30-day posting of applications for permit to drill. Plan amendments are not required to waive, modify, or provide exception to lease stipulations.

A waiver eliminates a stipulation from the lease. The stipulation waiver can be considered concurrent with application for permit to drill approvals and can be accomplished with any NEPA vehicle available such as an environmental assessment, documentation of NEPA adequacy, categorical exclusion, or any similar process available to the Ely Field Office. Waivers can be found in Appendix A, Section 2, for various resource concerns.

A modification usually is considered a long-term change in the stipulation to fit the new conditions for which the stipulation was applied; however, it can be short term as well. Depending upon the site conditions, the stipulation may or may not apply to all actions or authorizations on the leasehold. An example of a modification could be a greater sage-grouse lek site that may no longer need a no surface occupancy stipulation on drilling and construction operations if BLM, in consultation with the Nevada Department of Wildlife, determines that portions of the area can be occupied without adversely affecting the sage grouse lek. Public notice is required only if the authorized officer determines it is of major public concern.

An exception is a one-time exception to all or part of the stipulation for a particular action due to changed environmental conditions at the time and place of the action being considered. For example, a seasonal restriction on drilling in critical winter range could be excepted if the winter is mild and the target species

have not moved onto the critical portions of the winter range (near the drilling location). In subsequent years, the conditions could change and preclude an exception being granted. Normally, exceptions are considered minor actions and, therefore, are not subject to a 30-day public review.

Table 2-17 summarizes the acres open and closed to fluid mineral leasing under the Proposed RMP.

Table 2-17
Summary of Fluid Mineral Leasing Acreages

	Acres[1]
Open to Fluid Mineral Leasing	
Standard Lease Terms and Conditions	6,073,400
Moderate Restrictions (Timing/Surface Use Limitations)	3,728,200
Major Restrictions (No Surface Occupancy)	233,600
Open – Total	**10,035,200**
Closed to Fluid Mineral Leasing	
Designated Wilderness/Wilderness Study Areas	1,153,500
Discretionary Closures	311,300
Closed – Total	**1,464,800**
Total	**11,500,000**

Note: There will be about 307,770 acres of lease notices that could apply to any of the above open categories.

[1] Rounded to hundreds.

Management Actions

MIN-2: Open to Leasing – Allow leasing on approximately 6.0 million acres open to leasing subject to existing laws, regulations, and formal orders and the terms and conditions of the standard lease form. A lease notice will be attached, where applicable, to inform potential lessees of important resource issues under existing laws and regulations that may result in delays associated with subsequent permitting and appropriate mitigation of those resource concerns. Lease notices will consist of:

Cultural Site – Areas of known high potential for cultural sites. Properties known at the time of lease announcements that are listed on or eligible for the National Register of Historic Places will be avoided where possible using lease exclusions or limits on surface use. The preferred avoidance option is to exclude areas containing National Register of Historic Places-eligible sites from leasing and all forms of surface disturbance. The next preferred option is to establish no surface occupancy around these sites, including an adequate buffer. Similar constraints may be placed on proposed lease areas based on probability models and the likelihood of encountering properties eligible for the National Register of Historic Places. Cultural sites not avoided may require consultation with State Historic Preservation Officer and potential treatment plans.

Historic Sites – Areas include the Pony Express Trail, the Hastings Cutoff, the Lincoln Highway, and the Osceola Ditch. Any activity planned within 1 mile of these sites must undergo a visual assessment in conjunction with environmental review to determine if the activity will adversely affect the visual integrity.

Appropriate mitigation will take place as necessary to keep the management corridor in as natural a condition as possible. Nondiscretionary activity will be mitigated as needed to preserve the visual integrity.

Desert Tortoise Habitat – All proposed projects in desert tortoise habitat will require Section 7 consultation with the U.S. Fish and Wildlife Services.

MIN-3: Open to leasing, subject to moderate constraints – Protect resources beyond the standard lease terms and conditions by requiring timing and controlled surface use restrictions as indicated in **Table 2-17**. **Table 2-18** and **Maps 2-17**, **2-18, 2-19**, and **2-20** contain a complete description of all the lease stipulations. There is considerable overlap of acreages associated with various types of timing restrictions. Including this overlap, the cumulative acreage of the separate timing and surface use stipulations totals approximately 3.7 million acres.

Table 2-18
Timing and Surface Use Stipulations

Resource	Potential Restriction	Acres[1]
Greater Sage-grouse Habitat Associated with Leks	Timing Limitation. No surface activity will be allowed within two miles of a greater sage-grouse lek from March 1 through May 15.	1,244,200
Greater Sage-grouse Winter Range	Timing Limitation. No surface activity will be allowed within winter range for greater sage-grouse from November 1 through March 31.	100,300
Big Game Calving/Fawning/Kidding/Lambing Grounds	Timing Limitation. No surface activity will be allowed within big game calving/fawning/kidding/lambing grounds from April 15 through June 30.	794,200
Big Game Crucial Winter Range	Timing Limitation. No surface activity will be allowed within big game crucial winter range from November 1 through March 31.	756,800
Desert Tortoise Habitat	Timing Limitation. No surface activity will be allowed within desert tortoise habitat from March 1 to October 31.	314,700
Desert Bighorn Sheep Habitat	Timing Limitation. No surface activity will be allowed within occupied desert bighorn sheep habitat from March 1 through May 31 and from July 1 through August 31.	477,600
Raptor Nest Sites	Timing Limitations. No surface activity will be allowed from May 1 through July 15 within 0.5 mile of a raptor nest site that has been active within the past 5 years.	40,900
Totals of Individual Categories (including overlap)		3,728,600

[1] Rounded to hundreds.

Timing stipulations apply to the following wildlife species:

- **Greater Sage-grouse** – The greater sage-grouse is a Nevada BLM sensitive species and was petitioned for listing under the Endangered Species Act as a threatened or endangered species. Timing limitations are required to protect greater sage-grouse breeding and nesting activities and habitat during the crucial winter period.

- **Raptors** – Raptors (i.e., hawks, eagles, owls, etc.) are protected under numerous laws including the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and the Endangered Species Act of 1973. Timing limitations are required to protect raptor nesting activities.

- **Big Game** – Elk, mule deer, pronghorn antelope, and Rocky Mountain bighorn sheep are priority species in the planning area. Timing limitations are required to protect elk, mule deer, pronghorn antelope, and Rocky Mountain bighorn sheep from disturbance during calving, fawning, kidding, and lambing and from disturbance during the crucial winter period.

- **Desert Bighorn Sheep Habitat** – The desert bighorn sheep is a Nevada BLM sensitive species and is a priority species in the planning area. Timing limitations are required to protect desert bighorn sheep from disturbance during lambing and the crucial hot summer months.

- **Desert Tortoise Habitat** – The desert tortoise is listed as a threatened species under the Endangered Species Act. Timing limitations are required to protect desert tortoise during the most active period.

MIN-4: Stipulation Maintenance – Regularly maintain wildlife databases of species subject to the above stipulations to reflect current inventory status. For example an updated greater sage-grouse lek inventory may show the location of a new lek for which the lease stipulation will be applied in subsequent lease sales.

MIN-5: Existing leases – Apply the constraints and requirements identified in this RMP (and ongoing stipulation maintenance) to new use authorizations on existing leases provided that they are within the authority reserved by the terms and conditions of the lease.

MIN-6: Open to leasing, subject to major constraints. Apply a no surface occupancy restriction as shown in **Table 2-19** and **Maps 2-17, 2-18, 2-19,** and **2-20**. The no surface occupancy for greater sage-grouse leks is a 0.25-mile buffer.

MIN-7: Closed to leasing – Close approximately 1.5 million acres to leasing including designated wilderness/wilderness study areas, Congressionally mandated closures, and additional discretionary closures. It is BLM policy to apply the least restrictive constraint to meet the resource protection objective. However, for ACECs (other than the desert tortoise ACECs) that exceed 1 mile in length and width, the outer 0.5-mile perimeter is proposed as no surface occupancy and the remainder closed. Areas closed to leasing are shown in **Table 2-20**.

MIN-8: Evaluate geophysical exploration on a case-by-case basis. Geophysical exploration will not necessarily be subject to the same restrictions as shown for fluid leasing.

MIN-9: Apply the following special management actions for leasing within desert tortoise habitat:

a. Continue closure of the Kane Springs ACEC to leasing.

b. Manage the Mormon Mesa and Beaver Dam Slope ACECs as no surface occupancy with exceptions granted upon completion of Section 7 consultation with the U.S. Fish and Wildlife Service.

c. Attach a lease notice for all areas within desert tortoise habitat, to alert the lessee that a Section 7 consultation with U.S. Fish and Wildlife Service will be completed prior to any surface disturbance within desert tortoise habitat.

d. Impose a timing stipulation for all areas within desert tortoise habitat. The stipulation will involve no surface occupancy from March 1 to October 31.

e. Unless otherwise authorized, all vehicular traffic will be restricted to existing roads and trails.

Table 2-19
No Surface Occupancy for Fluid Mineral Leasing

Name	Acres
Andies Mine Trilobite Site	180
Ash Springs Proposed Withdrawal	80
Baker Archaeological Site Proposed ACEC	80
Baking Powder Flat Proposed ACEC	6,620
Beaver Dam Slope ACEC	36,800
Blue Mass Scenic Area Proposed ACEC	950
Caliente Field Station	2
Cleve Creek Recreation Area	90
Condor Canyon Proposed ACEC	2,880
Egan Crest Trailhead	250
Garnet Hill	160
Hendry's Creek/Rock Animal Corral Proposed ACEC	3,650
Highland Range Proposed ACEC	3,700
Honeymoon Hill/City of Rocks Proposed ACEC	3,900
Illipah Reservoir	290
Kirch Wildlife Management Area	5,000
Lower Meadow Valley Wash Proposed ACEC	25,000
Mormon Mesa ACEC	66,430
Mount Irish Proposed ACEC	8,000
Pahroc Rock Art Proposed ACEC	2,400
Pony Springs Fire Station	10
Rose Guano Bat Cave Proposed ACEC	40
Sacramento Pass Recreation Site	440
Greater Sage-grouse Leks	31,520
Schlesser Pincushion Proposed ACEC	4,930
Shooting Gallery Proposed ACEC	5,800
Shoshone Ponds Proposed ACEC	1,240
Snake Creek Indian Burial Cave Proposed ACEC	40
Sunshine Locality National Register District	6,460
Swamp Cedar Proposed ACEC	3,200
Ward Mountain Recreation Site	240
White Pine County Shooting Range	255
White River Archaeological District	230
White River Valley Proposed ACEC	13,100
Total[1]	**233,967**

[1] Total acres may differ from summary table due to overlap with ACEC areas that are closed to leasing.

Table 2-20
Areas Closed to Fluid Mineral Leasing

Name	Acres
Baker Proposed Withdrawal	6,720
Baking Powder Flat Proposed ACEC	7,020
Condor Canyon Proposed ACEC	1,625
Designated Wilderness/Wilderness Study Areas	1,153,599
Highland Range Proposed ACEC	3,200
Kane Spring ACEC	57,000
Coyote Springs leased public lands (Congressional)	6,200
Lincoln County Conservation, Recreation, and Development Act State Park	4,780
Lincoln County Conservation, Recreation, and Development Act Utility Corridors	113,425
Lincoln County Proposed Disposals	57,000
Mount Irish Proposed ACEC	7,100
Murry Spring Watershed	1,260
Shooting Gallery Proposed ACEC	9,800
Steptoe Valley Wildlife Management Area Expansion	6,265
Sunshine Locality National Register District	12,640
White Pine County Conservation, Recreation, and Development Act Airport Expansion	1,550
White Pine County Conservation, Recreation, and Development Act Industrial Park Expansion	200
White Pine County Conservation, Recreation, and Development Act Additional Withdrawals	98,125
White Pine County Conservation, Recreation, and Development Act Disposals	18,600
Total*	**1,566,200**

* Total acres may differ from summary table due to overlap of closed areas.

2.10.3 Parameter – Solid Leasable Minerals

Management Actions

MIN-10: Open to leasing – Allow solid mineral leasing on approximately 9.9 million acres of federal mineral estate, subject to best management practices. **Table 2-21** and **Maps 2-21**, **2-22**, **2-23**, and **2-24** show the areas that will be available to leasing

Table 2-21
Summary of Solid Mineral Leasing

	Acres[1]
Open to Solid Mineral Leasing	9,852,000
Closed – Designated Wilderness/Wilderness Study Areas	1,153,500
Closed – Discretionary	494,500
Total	**11,500,000**

[1] Rounded to hundreds.

MIN–11: Issue mineral use authorizations for prospecting permits, exploration licenses, preference right leases, competitive leases, lease modifications, and use permits.

MIN–12: Closed to leasing – Close approximately 1.6 million acres to solid mineral leasing. This includes designated wilderness and wilderness study areas. Closed areas include existing closed areas carried forward (i.e., Lincoln County Conservation, Recreation, and Development Act). **Table 2-22** and **Maps 2-21, 2-22, 2-23,** and **2-24** show the areas that will be closed to leasing.

MIN–13: Apply the following special management actions for solid mineral leasing within desert tortoise ACEC habitat:

a. Continue closure of the Kane Springs ACEC to solid mineral leasing.
b. Close the Mormon Mesa and Beaver Dam Slope ACECs to solid mineral leasing.

2.10.4 Parameter – Locatable Minerals

For lands that are open to the location of mining claims, the claimant has statutory authority under the mining laws to ingress, egress, and development of those claims. This authority means that those areas open to mineral entry for the purposes of exploration or development of locatable minerals cannot be unreasonably restricted.

See **Table 2-23** for a summary of closed and open acres.

Management Actions

MIN-14: Open to locatable – Allow locatable mineral development on approximately 9.9 million acres of federal mineral estate, subject to the prevention of unnecessary or undue degradation of public lands (see **Maps 2-21, 2-22, 2-23,** and **2-24**).

MIN-15: Closed to locatable – Manage approximately 1.6 million acres of federal mineral estate from operation of the mining law as closed to locatable mineral entry. Review any lands with closures that expire to determine whether the withdrawals should be extended, revoked, or modified. **Table 2-22** describes the areas that are closed or proposed to be closed (see **Maps 2-21, 2-22, 2-23,** and **2-24**).

MIN-16: Apply the following special management actions for locatable minerals within desert tortoise habitat:

a. Close the Kane Springs, Mormon Mesa, and Beaver Dam Slope ACECs to locatable mineral entry. Existing mining claims that have valid existing rights and mining operations could occur in the ACEC. The BLM will be required to perform validity exams on the existing claims to determine if they are valid claims before any operation may proceed within the ACEC. The operation could proceed once the review of the plan of operation, NEPA review, and Section 7 consultation have occurred.

b. Inform operators submitting a notice for activities within desert tortoise habitat, but outside of ACECs, of their responsibilities to comply with specific provisions of the Endangered Species Act.

Table 2-22
Areas Closed and Proposed for Closure for Solid Leasable, Locatable, and Mineral Materials

Name	Acres
Andies Mine Trilobite Site	180
Ash Springs Proposed Withdrawal	80
Baker Archaeological Site Proposed ACEC	80
Baker Proposed Withdrawal *	6,720
Baking Powder Flat Proposed ACEC	13,640
Beaver Dam Slope ACEC[1]	36,800
Blue Mass Scenic Area Proposed ACEC	950
Caliente Field Station	2
Cleve Creek Recreation Site	90
Condor Canyon Proposed ACEC	4,500
Designated Wilderness/Wilderness Study Areas	1,153,500
Egan Crest Trailhead	250
Garnet Hill	160
Hendry's Creek Rock Animal Corral Proposed ACEC	3,650
Highland Range Proposed ACEC	6,900
Honeymoon Hill / City of Rocks Proposed ACEC	3,900
Illipah Reservoir	290
Kane Spring ACEC[1]	57,190
Kirch Wildlife Management Area	5,000
Coyote Springs leased public lands (congressional)	6,200
Lincoln County Conservation, Recreation, and Development Act Corridors	113,425
Lincoln County Conservation, Recreation and Development Act State Park	4,780
Lincoln County Proposed Disposals	57,000
Lower Meadow Valley Wash Proposed ACEC[2]	25,000
Mormon Mesa ACEC[1]	66,430
Mount Irish Proposed ACEC	15,100
Murry Spring Watershed	1,255
Pahroc Rock Art Proposed ACEC	2,400
Pony Springs Fire Station	10
Rose Guano Bat Cave Proposed ACEC	40
Sacramento Pass Recreation Site	440
Schlesser Pincushion Proposed ACEC	4,930
Shooting Gallery Proposed ACEC	15,600
Shoshone Ponds Proposed ACEC	1,240
Snake Creek Indian Burial Cave Proposed ACEC	40
Steptoe Valley Wildlife Management Area	6,265
Swamp Cedar Proposed ACEC	3,200
Ward Mountain Recreation Site	240
White Pine County Conservation, Recreation, and Development Act Additional Withdrawal	98,125
White Pine County Conservation, Recreation, and Development Act Airport Expansion	1,550
White Pine County Conservation, Recreation, and Development Act Industrial Park Expansion	200
White Pine County Conservation, Recreation, and Development Act Proposed Disposals	18,600
White Pine County Shooting Range	255
White River Archaeological District	230
White River Valley Proposed ACEC	13,100
Total*	**1,749,537**

* Total acres may differ from summary table due to overlap of closed areas and rounding.

[1] Subject to exception for existing valid claims.

[2] Closed for solid leasable and locatable minerals, but open with special stipulations for mineral materials. Mineral materials activities subject to controlled surface use, seasonal timing restrictions, restricted or no uses in avoidance areas (e.g., riparian areas, live water, areas with special wildlife or plant features, and sensitive viewsheds), additional NEPA analysis, and Section 7 consultation.

Table 2-23
Summary of Locatable Minerals

	Acres
Open to Locatable Minerals	9,852,000
Closed – Designated Wilderness/Wilderness Study Areas	1,153,500
Closed – Discretionary	494,500
Total	**11,500,000**

[1] Rounded to hundreds.

2.10.5 Parameter – Mineral Materials (Salable Minerals)

The same areas are closed for mineral materials as for locatable minerals with the exception of Lower Meadow Valley Wash.

Acreage totals are shown in **Table 2-24** and **Maps 2-25**, **2-26**, **2-27**, and **2-28** show the areas that will be open or closed.

Table 2-24
Summary of Mineral Materials

	Acres[1]
Open to Mineral Materials	9,857,700
Closed – Designated Wilderness/Wilderness Study Areas	1,153,500
Closed – Discretionary	488,800
Total	**11,500,000**

[1] **Rounded to hundreds.**

Management Actions

MIN-17: Open to mineral materials – Allow disposal of mineral materials on approximately 9.9 million acres of federal mineral estate, subject to best management practices.

MIN-18: Space mineral material sites appropriately to accommodate public and private needs while preserving environmental qualities.

MIN-19: Maintain and locate community pits and common use areas to provide for the needs of local communities as they develop.

MIN-20: Closed to mineral materials – Close approximately 1.6 million acres to mineral materials disposal as shown in **Table 2-22** and **Maps 2-25**, **2-26**, **2-27**, and **2-28**.

MIN-21: Apply the following special management actions for mineral material disposal within desert tortoise habitat:

- Close the Kane Springs, Mormon Mesa and Beaver Dam Slope ACECs to mineral material disposal except for a 1-mile-wide corridor, 0.5-mile each side of the road, on designated roads (U.S. Highway 93, Carp-Elgin, and Kane Springs roads). Space mineral material site developments to provide approximately 10 miles between adjacent sites. This corridor will be open only for free use permits and federal highway material site rights-of-way. Within desert tortoise ACECs, allow mineral materials disposal within the three designated 1-mile-wide corridors only from November 1 through February 28/29 (see **Map 2-29**).

- Close and reclaim existing pits and designations identified as not needed to meet current and future demand.

2.11 Watershed Management

Introduction

The planning area has been divided into 61 watershed units (entire watersheds or manageable portions thereof). Watershed conditions are controlled by climate, geology, topography, vegetation, and soil characteristics. Vegetation and soil conditions change naturally over time in response to climate, fire, and other natural processes and management. The rate water is captured by the watershed, the amount of storage available, and the rate and location of water release depends on the amount and type of vegetation and type and condition of soil. Thus, healthy watersheds are dependent on achieving or maintaining land health standards.

Goal

Manage watersheds to achieve and maintain resource functions and conditions required for healthy lands and sustainable uses.

Mojave/Southern Great Basin Resource Advisory Council Standards

- Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.

- Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses.

- Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover; capture sediment; and capture, retain, and safely release water (watershed function).

- Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

Northeastern Great Basin Resource Advisory Council Standards

- Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, and land form.

- Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.

- Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics; to provide suitable feed, water, cover, and living space for animal species; and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.

- Land use plans will recognize cultural resources within the context of multiple use.

Objective

To manage watersheds that display physical and biological conditions or functions required for necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses.

Management Actions

WS-1: Perform watershed analysis initially on the following watersheds: North Spring Valley, Antelope Valley, Gleason Creek, Smith Valley, South Steptoe Valley, Clover Creek South, North Antelope Valley, Steptoe A, and Spring Valley. When these analyses are complete, analyze the high priority watersheds listed in **Table 2-25** followed by the low priority watersheds.

WS-2: Additional forage resulting from implementation of vegetation restoration projects identified through the watershed analysis process will be allocated to livestock and wild horses and/or reserved for watershed maintenance and wildlife depending on the degree of watershed function required to maintain rangeland health standards.

Table 2-25
Watershed Priority for Analysis and Treatment

Watershed Name	Priority	Watershed Name	Priority
Antelope Valley	High	Spring Valley South West	High
Beaver Dam Wash	High	Steptoe A	High
Cave Valley	High	Steptoe B	High
Clover Creek North	High	Steptoe C	High
Clover Creek South	High	Tikaboo Valley	High
Coyote Springs	High	Toquop Wash	High
Dry Lake Valley	High	Tule Desert	High
Dry Valley	High	White River Central	High
Duck Water	High	White River North	High
Eagle Valley	High	White River South	High
Escalante Desert	High	Big Sand Springs Valley	Low
Gleason Creek	High	Butte	Low
Hamblin Valley	High	Central Little Smoky Valley	Low
Huntington	High	Coal Valley	Low
Kane Spring Wash	High	Deep Creek	Low
Lake Valley	High	Delamar Valley	Low
Long Valley	High	Duck Creek Basin	Low
Meadow Valley Wash N	High	Egan Basin	Low
Meadow Valley Wash S	High	Emmigrant	Low
Newark	High	Fox-gap Mountain	Low
North Antelope Valley	High	Garden Valley	Low
North Spring Valley	High	Jakes Valley	Low
Panaca Valley	High	North Little Smoky Valley	Low
Patterson Wash	High	Park Range	Low
Rose Valley	High	Railroad Valley	Low
Smith Valley	High	Ruby Valley	Low
Snake Valley South	High	Sand Hollow Wash	Low
South Spring Valley	High	Sand Spring Valley	Low
South Steptoe Valley	High	Snake Valley North	Low
Spring Valley	High	South Little Smoky Valley	Low
Spring Valley South East	High		

2.12 Fire Management

Introduction

The BLM is charged with clearly defining fire management goals, objectives, and actions in comprehensive fire management plans. Strategic watershed-scale fuel management and fire use planning that integrates a variety of treatment methods, will cost-effectively reduce fuel hazards to acceptable levels and benefit ecological system health. Fire management programs and activities should be based upon safety to fire fighters and the public, protecting resources, minimizing costs, and achieving land management objectives. Fire management units with known species occurrence are shown on **Map 2-30**.

Goal

Provide an appropriate management response to all wildland fires, with emphasis on firefighter and public safety, consistent with overall management objectives. Return fire to its natural role in the ecological system and implement fuels treatments, where applicable, to aid in returning fire to the ecological system. Establish

a community education program that includes fuels reduction within the wildland urban interface to create fire-safe communities.

Objective

To manage wildland and prescribed fires as one of the tools in the treatment of vegetation communities and watersheds to achieve the desired range of condition for vegetation, watersheds, and other resource programs (e.g., livestock, wild horses, soils, etc.).

Management Actions

FM-1: Use prescribed fire and wildland fire in compliance with applicable smoke management requirements as specified by the Nevada Smoke Management program. Obtain annual permits and provide daily evaluation of the fire conditions to ensure applicable air quality regulations are not violated.

FM-2: Coordinate with the Department of Defense when planning prescribed burns utilizing aircraft within their military operating air spaces in the planning area.

FM-3: Implement and update the Ely Fire Management Plan, as needed. Tier the Ely Fire Management Plan to the general fire management actions in the Ely RMP. Fire management units within the planning area have been identified on the basis of similar vegetation type and condition, management constraints, issues, and objectives and strategies (see **Table 2-26**). The following management actions will take place within these fire management units:

1) **Wildland fire suppression** – provide Appropriate Management Response on all wildland fires that occur within the fire management jurisdiction of the Ely Field Office;

2) **Fuels treatments** – develop and implement prescribed fire and non-fire fuels treatments (mechanical, chemical, and biological) to create fire-safe communities, protect private property, achieve resource management objectives (Section 2.1, Vegetation Resources), and restore ecological system health;

3) **Wildland fire use** – manage, to the extent practical for resource benefit, to improve ecological system function, and to allow fire to function as a natural part of the ecological system, approximately 8.9 million acres would be available for wildland fire use;

4) **Emergency stabilization and rehabilitation** – design and implement to achieve vegetation, habitat, soil stability, and watershed objectives in accordance with the Programmatic Emergency Stabilization and Rehabilitation Plan; and

5) **Community assistance/protection** – establish an active community education and assistance program where needed to create fire-safe communities and prevent catastrophic impacts on sensitive natural resources.

Table 2-26
Summary of Fire Management Units for the Ely Field Office

Number	Name	Type[1]
NV-040-01	Meadow Valley-Deerlodge	Vegetation
NV-040-02	Irish/Timber/Worthington Mountains	Vegetation
NV-040-03	Northern Mountains	Vegetation
NV-040-04	Southern Benches	Vegetation
NV-040-05	Seaman Range-Murphy Gap	Vegetation
NV-040-06	Elgin/Blue Nose/Kane Spring Pinyon Juniper	Vegetation
NV-040-07	Southern Valleys	Vegetation
NV-040-08	Northern Valleys	Vegetation
NV-040-09	Lincoln County	Wildland Urban Interface
NV-040-10	Ely/Lund/Duckwater	Wildland Urban Interface
NV-040-11	Cherry Creek/Goshute	Wildland Urban Interface
NV-040-12	Ely/Lund Watershed and Wildland Urban Interface	Wildland Urban Interface
NV-040-13	Caliente Watershed and Wildland Urban Interface	Wildland Urban Interface
NV-040-14	Southern Benches	High Value Habitat
NV-040-15	Northern Benches	High Value Habitat
NV-040-16	Buck and Bald/Diamond Mountains	High Value Habitat
NV-040-17	North Pahroc and Pahranagat	High Value Habitat
NV-040-18	Bullwhack	High Value Habitat
NV-040-19	Illipah/Wells Station/Horse and Quinn	High Value Habitat
NV-040-20	Clover/Delamar/South Pahroc/Irish	High Value Habitat
NV-040-21	Highlands and South Egan Range	High Value Habitat
NV-040-22	Kern/Snake/Cherry Creek/Park Mountain	High Value Habitat
NV-040-23	Mojave	Special Management Area
NV-040-24	Mojave and Highlands	Special Management Area
NV-040-25	Alamo and Hiko	Wildland Urban Interface

[1] A fire management type is assigned to each fire management unit to clearly define its primary resource management objective and fire protection values.

FM-4: Incorporate and utilize Fire Regime Condition Class methodologies as a major component in fire and fuels management activities. Use Fire Regime Condition Class ratings in conjunction with vegetation objectives (Section 2.1, Vegetation Resources) and other resource objectives to determine appropriate response to wildland fires and to help determine where to utilize prescribed fire, wildand fire use, or other non-fire (e.g., mechanical) fuels treatments.

FM-5: In addition to fire, implement mechanical, biological, and chemical treatments along with other tools and techniques to achieve vegetation, fuels, and other resource objectives.

FM-6: Base fire management priorities on: 1) firefighter and public safety, and 2) resource protection objectives.

FM-7: Implement the following management actions for desert tortoise habitat (also refer to Section 2.2, Special Status Species).

- Within desert tortoise habitat, initiate full suppression activities using appropriate techniques/tools (engines, equipment off road, burning out, etc.) with the minimum necessary surface disturbances to

limit the size of a wildland fire, reduce loss of tortoise cover and minimize the spread of exotic annual grasses.

- Assign a qualified resource advisor to each wildland fire to provide relevant information on the occurrence of desert tortoise and important habitat to the incident commander. The resource advisor serves as the field contact representative responsible for coordination with the U.S. Fish and Wildlife Service.

- Do not authorize burning out of unburned fingers or islands of vegetation, unless it is necessary for safety.

- Establish fire camps, staging areas, and helispots in previously disturbed areas outside of ACECs, where possible, and in consultation with a qualified resource advisor. Prior to use of any area, allow a resource advisor to survey 100 percent of the area. If a desert tortoise or desert tortoise burrow is found, the area will be adjusted, if possible, to avoid the tortoise or burrow. If avoidance is not possible, a qualified desert tortoise biologist will examine the burrow for occupancy by tortoise. Any tortoise found in burrows or within the area will be relocated.

- Restrict off-road travel and use of tracked vehicles to the minimum necessary to suppress wildland fires. All vehicles will be parked as close to the road as possible using disturbed areas or wide spots in the road to turn around. All tracks will be obliterated immediately following fire suppression activities, to the extent possible.

- Provide all firefighters and support personnel with a briefing on desert tortoises and their habitat to minimize take, particularly those associated with vehicle use.

- Control the speed of fire suppression vehicles to ensure that tortoises on roads can be seen and avoided.

- If possible, rehabilitate fire lines and disturbances associated with fire suppression activities. Determine seed mixtures on a site-specific basis dependent on the probability of successful establishment. Use native and adaptive species that compete with annual invasive species or meet other objectives.

- Conduct post-fire suppression surveys to identify desert tortoise mortalities and report any take of desert tortoise.

2.13 Noxious and Invasive Weed Management

Introduction

The Federal Land Policy and Management Act of 1976 and Pesticide Registration Improvement Act of 2003 direct the BLM to ". . . manage public lands according to the principles of multiple-use and sustained yield . . ." and ". . . manage the public lands to prevent unnecessary degradation . . . so they become as productive

as feasible." The "Carlson-Foley Act" (Public Law 90-583) and the "Federal Noxious Weed Act" (Public Law 93-629) direct weed control on public land. Executive Order 13112, Invasive Species, was authorized to prevent the introduction of invasive species, provide for their control, and to minimize the economic, ecological, and human health impacts caused by these species. Nevada Revised Statute 555, Control of Insects, Pests, and Noxious Weeds, provides information regarding the designation and eradication of and inspection for noxious weeds within the State of Nevada.

Goal

Prevent the introduction and spread of noxious and invasive weeds. Control or eradicate existing populations.

Objectives

To reduce introduction of, and the areal extent of, noxious and invasive weed populations and the spread of these populations.

Management Actions

WEED-1: Continue to use integrated weed management to treat weed infestations and use principles of integrated pest management to meet management objectives and to reestablish resistant and resilient native vegetation communities.

WEED-2: Develop weed management plans that address weed vectors, minimize the movement of weeds within public lands, consider disturbance regimes, and address existing weed infestations.

WEED-3: When manual weed control is conducted, remove the cut weeds and weed parts and dispose of them in a manner designed to kill seeds and weed parts.

WEED-4: All straw, hay, straw/hay, or other organic products used for reclamation or stabilization activities, must be certified that all materials are free of plant species listed on the Nevada noxious weed list or specifically identified by the Ely Field Office.

WEED-5: Where appropriate, inspect all source sites such as borrow pits, fill sources, or gravel pits used to supply inorganic materials used for construction, maintenance or reclamation to ensure they are free of plant species listed on the Nevada noxious weed list or specifically identified by the Ely Field Office. Inspections will be conducted by a weed scientist or qualified biologist.

WEED-6: Where appropriate, vehicles and heavy equipment used for the completion, maintenance, inspection, or monitoring of ground disturbing activities; for emergency fire suppression; or for authorized off-road driving will be free of soil and debris capable of transporting weed propagules. Vehicles and equipment will be cleaned with power or high pressure equipment prior to entering or leaving the work site or project area. Vehicles used for emergency fire suppression will be cleaned as a part of check-in and

demobilization procedures. Cleaning efforts will concentrate on tracks, feet or tires, and on the undercarriage. Special emphasis will be applied to axles, frames, cross members, motor mounts, on and underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. Cleaning sites will be recorded using global positioning systems or other mutually acceptable equipment and provided to the Ely Field Office Weed Coordinator or designated contact person.

WEED-7: Animals used on public lands by special recreation permittees or by contractors for weed control or reclamation will be cleaned, quarantined, and fed weed-free feed prior to being used or released on public lands. The length of this quarantine will be specified in the special recreation permit or contract.

WEED-8: Prior to the entry of vehicles and equipment to a planned disturbance area, a weed scientist or qualified biologist will identify and flag areas of concern. The flagging will alert personnel or participants to avoid areas of concern.

WEED-9: To minimize the transport of soil-borne noxious weed seeds, roots, or rhizomes, infested soils or materials will not be moved and redistributed on weed-free or relatively weed-free areas. In areas where infestations are identified or noted and infested soils, rock, or overburden must be moved, these materials will be salvaged and stockpiled adjacent to the area from which they were stripped. Appropriate measures will be taken to minimize wind and water erosion of these stockpiles. During reclamation, the materials will be returned to the area from which they were stripped.

WEED-10: Prior to project approval, a site-specific weed survey will occur and a weed risk assessment will be completed. Monitoring will be conducted for a period no shorter than the life of the permit or until bond release and monitoring reports will be provided to the Ely Field Office. If the presence and/or spread of noxious weeds is noted, appropriate weed control procedures will be determined in consultation with Ely Field Office personnel and will be in compliance with the appropriate BLM Handbook sections and applicable laws and regulations. All weed control efforts on BLM-administered lands will be in compliance with BLM Handbook H-9011, H 9011-1 Chemical Pest Control, H-9014 Use of Biological Control Agents of Pests on Public Lands, and H-9015 Integrated Pest Management. Submission of Pesticide Use Proposals and Pesticide Application Records will be required.

2.14 Special Designations

This section deals with a variety of special designations mandated by a number of laws, regulations, and policies. Included are Areas of Critical Environmental Concern (ACECs), the BLM's Back Country Byway program, wilderness designated by Congress, wilderness study areas, wild and scenic rivers, and other special designations such as National Historic Trails.

Goal

Evaluate areas of interest for special designation and appropriately manage those areas that meet necessary requirements.

Objective

To ensure that multiple use activities within the planning area are consistent with the management plans developed for special designation areas such as ACECs.

2.14.1 Parameter – Areas of Critical Environmental Concern

Section 202(c)(3) of Federal Land Policy and Management Act mandates that priority be given to the designation and protection of ACECs. These areas are defined in section 103(a) as areas where special management attention is required to protect and prevent irreparable damage to important values, resources, systems or processes, or to protect life and safety from natural hazards.

Management Actions

SD-1: Manage the Kane Springs, Mormon Mesa, and Beaver Dam Slope ACECs primarily for the recovery of the desert tortoise (203,670 acres) (see **Map 2-31**). These ACECs were designated through the Approved Caliente MFP Amendment and Record of Decision for the Management of Desert Tortoise Habitat (BLM 2000) and corresponding Biological Opinion (U.S. Fish and Wildlife Service 2000). See **Table 2-27**.

SD-2: Develop management plans for the Kane Springs, Beaver Dam Slope, Mormon Mesa, and Lower Meadow Valley Wash ACECs within 3 years to address and implement multiple-use management actions and conservation measures for desert tortoise and Southwestern willow flycatcher. When completing the management plans for Lower Meadow Valley Wash ACEC, all Union Pacific rights-of-way (approximately 2,675 acres) located within the ACEC will receive special consideration noting the legal limitations contained in the right-of-way grants.

SD-3: Designate 17 new ACECs totaling an additional 114,120 acres. See **Table 2-28** for additional information including management prescriptions for each of the newly-designated ACECs.

2.14.2 Parameter – Back Country Byways

Management Actions

SD-4: Retain the Mount Wilson Back Country Byway. In addition, designate the Rainbow Canyon and the Silver State Trail as back country byways (see **Map 2-32**).

Table 2-27
Management Prescriptions for Existing ACECs[1]

Beaver Dam Slope (36,800 acres)	
Management Activities	**Management Prescriptions**
Land Use Authorization	Limited[2]/avoidance area[3]
Off-highway vehicle use	Closed/limited[4]
Visual resource management class	IV
Plant collecting	Limited[5]
Road maintenance	Limited[6]
Leasable minerals	No surface occupancy with exception[7]
Locatable minerals	Closed[8]
Mineral materials	Closed
Lands disposal	No disposal
Fire management	Limited[9]
Transportation	Limited
Livestock management	Unavailable
Fuelwood cutting	Not applicable
Renewable energy	Closed[10]
Kane Springs (57,190 acres)	
Management Activities	**Management Prescriptions**
Land Use Authorization	Limited[2]/avoidance[3]/exclusion area
Off-highway vehicle use	Closed/limited[4]
Visual resource management class	I, II, III, IV
Plant collecting	Limited[5]
Road maintenance	Limited[6]
Leasable minerals	Closed
Locatable minerals	Closed[8]
Mineral materials	Limited[11]
Lands disposal	No disposal
Fire management	Limited[9]
Transportation	Limited
Livestock management	Unavailable
Fuelwood cutting	Not applicable
Renewable energy	Closed[10]

Table 2-27 (Continued)

Mormon Mesa (109,680 acres)	
Management Activities	**Management Prescriptions**
Land Use Authorization	Limited[2]/avoidance[3]/exclusion area
Off-highway vehicle use	Closed/limited[4]
Visual resource management class	I, II, III, IV
Plant collecting	Limited[5]
Road maintenance	Limited[6]
Leasable minerals	No surface occupancy with exception[7]
Locatable minerals	Closed[8]
Mineral materials	Limited[11]
Lands disposal	No disposal
Fire management	Limited[9]
Transportation	Limited
Livestock management	Unavailable
Fuelwood cutting	Not applicable
Renewable energy	Closed[10]

[1] Acres within the existing Beaver Dam Slope, Kane Springs, and Mormon Mesa ACECs are those within the planning area.

[2] Rights-of-way; limit authorization of future communication sites to existing established rights-of-way unless technically unfeasible and encourage use of existing corridors for all future rights-of-way when possible.

[3] Avoidance area; granting rights-of-way (surface, subsurface, aerial) within the area should be avoided, but rights-of-way may be granted if there is minimal conflict with identified resource values and impacts can be mitigated.

[4] Off-highway vehicle use will be limited to designated roads and trails. Areas within ACECs designated as wilderness would be closed to off-highway vehicle use.

[5] Plant materials, including common species, may be collected by permit only.

[6] Road maintenance would be limited to the designated roadway; shoulder barrow/ditch construction will be limited to only that necessary to ensure public safety and serviceability of the road.

[7] Exception requires Section 7 consultation with a no adverse impact conclusion.

[8] Subject to exception for existing valid claims.

[9] Limits could be placed on fire management activities.

[9] Closed to renewable energy facilities. Avoidance area for ancillary rights-of-way for access roads, transmission lines, and pipelines.

[10] Closed except for free use permits and federal highway material site rights-of-way on a 1-mile corridor, 0.5 mile each side of road on three designated roads.

Table 2-28
Management Prescriptions for Proposed ACECs

Baker Archaeological Site – 80 acres designated for the protection of prehistoric architectural sites	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposal
Fire management	Open[5]
Transportation	No new roads
Livestock management	Unavailable
Fuelwood cutting	Not applicable
Renewable energy	Closed[6]
Baking Powder Flat – 13,640 acres designated for the protection of the Baking Powder Flat blue butterfly, a BLM sensitive species	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III, IV
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy/Closed
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposal
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Not applicable
Renewable energy	Closed[6]
Blue Mass Scenic Area – 950 acres designated for the protection of exceptional scenic qualities	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	I
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposal
Fire management	Limited[8]
Transportation	Limited, no new roads
Livestock management	Available[7]
Fuelwood cutting	Closed
Renewable energy	Closed[6]

Table 2-28 (Continued)

Condor Canyon – 4,500 acres designated for the protection of the Big Spring spinedace, a federally threatened species, and its designated critical habitat	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	II, III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy/Closed
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposal
Fire management	Limited[8]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]
Hendry's Creek/Rock Animal Corral – 3,650 acres designated for the protection of prehistoric values	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	IV
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed with exception of community pit[9]
Lands disposal	No disposal
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Open
Renewable energy	Closed[6]
Highland Range – 6,900 acres designated for the protection of the basin waxflower, a BLM sensitive plant species	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III, IV
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy/Closed
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposal
Fire management	Limited[8]
Transportation	Limited
Livestock management	Available[7]
Fuelwood cutting	Closed
Renewable energy	Closed[6]

Table 2-28 (Continued)

Honeymoon Hill/City of Rocks – 3,900 acres designated for the protection of prehistoric values	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III, IV
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Open[5]
Renewable energy	Closed[8]
Lower Meadow Valley Wash – 25,000 acres designated for the protection of federally endangered, threatened, and candidate species such as the southwestern willow flycatcher (endangered), western yellow-billed cuckoo (candidate), Meadow Valley Wash desert sucker (sensitive), Meadow Valley Wash speckled dace (sensitive), and Arizona southwestern toad (sensitive).	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	II, III, IV
Plant collecting	Closed
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Open[10]
Lands disposal	No disposals
Fire management	Limited[9]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Closed
Renewable energy	Closed[8]
Mount Irish – 15,100 acres designated for the protection of historic values including historic mine and mill sites and prehistoric values including petroglyphs, lithic scatters, pottery scatters, and pictographs	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	II, III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy/Closed
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	Limited
Livestock management	Available[7]
Fuelwood cutting	Closed
Renewable energy	Closed[8]

Table 2-28 (Continued)

Pahroc Rock Art – 2,400 acres designated for the protection of prehistoric values including petroglyphs, rock shelters, and other artifacts	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	II/III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]
Rose Guano Bat Cave – 40 acres designated for the protection of the Brazilian free-tailed bat, a BLM sensitive species	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	II
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]
Schlesser Pincushion – 4,930 acres designated for the protection of Schlesser pincushion, a BLM sensitive species	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	II
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Limited[8]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Not applicable
Renewable energy	Closed[6]

Table 2-28 (Continued)

Shooting Gallery – 15,600 acres designated for the protection of prehistoric values including rock art sites, habitation areas, and a game-drive complex	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]; valid existing rights will remain in effect
Off-highway vehicle use	Limited[2]
Visual resource management class	II, III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy/Closed
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Open[5]
Renewable energy	Closed[6]
Shoshone Ponds – 1,240 acres designated for the protection of the Pahrump poolfish, a federally listed species	
Management Activities	**Management Prescriptions**
Land Use Authorization	Exclusion area; rights-of-way will not be granted within the area
Off-highway vehicle use	Limited[2]
Visual resource management class	III
Plant collecting	Closed
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Limited[8]
Transportation	Limited
Livestock management	Available[7]
Fuelwood cutting	Closed
Renewable energy	Closed[6]
Snake Creek Indian Burial Cave – 40 acres designated for the protection of zooarchaeology, geology, and archaeology	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Open[5]
Transportation	No new roads
Livestock management	Unavailable
Fuelwood cutting	Not applicable
Renewable energy	Closed[6]

Table 2-28 (Continued)

Swamp Cedar – 3,200 acres designated for the protection of rare plant species including Rocky Mountain juniper and the slender thelopody, prehistoric sites, and the site of the Goshute War of 1863	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III
Plant collecting	Closed
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Limited[8]
Transportation	Limited
Livestock management	Available[7]
Fuelwood cutting	Closed
Renewable energy	Closed[6]
White River Valley – 13,100 acres designated for the protection of the Sunnyside green gentian, Charleston grounddaisy, Parish phacelia, Tiehm blazingstar, and White River catseye, BLM sensitive plant species	
Management Activities	**Management Prescriptions**
Land Use Authorization	Avoidance area[1]
Off-highway vehicle use	Limited[2]
Visual resource management class	III, IV
Plant collecting	Limited[3]
Road maintenance	Limited[4]
Leasable minerals	No surface occupancy
Locatable minerals	Closed
Mineral materials	Closed
Lands disposal	No disposals
Fire management	Limited[8]
Transportation	No new roads
Livestock management	Available[7]
Fuelwood cutting	Not applicable
Renewable energy	Closed[6]

[1] Avoidance area; granting rights-of-way (surface, subsurface, aerial) within the area should be avoided, but rights-of-way may be granted if there is minimal conflict with identified resource values and impacts can be mitigated.
[2] Off-highway vehicle use would be limited to designated roads and trails.
[3] Plant materials, including common species, may be collected by permit only.
[4] Road maintenance will be limited to the designated roadway; shoulder barrow/ditch construction will be limited to only that necessary to ensure public safety and serviceability of the road.
[5] The activity is allowed in the area. NEPA compliance and clearances for cultural resources and threatened and endangered species required for some activities.
[6] Closed to renewable energy facilities; avoidance area for ancillary rights-of-way for access roads, transmission lines, and pipelines.
[7] Livestock grazing will be controlled through terms and conditions on the grazing permit.
[8] Limits could be placed on fire management activities.
[9] Continue sales within existing community pit.
[10] Open with special stipulations. Open to mineral material activities subject to controlled surface use, seasonal timing restrictions, restricted or no uses in avoidance areas (e.g., riparian areas, live water, areas with special wildlife or plant features, and sensitive viewsheds), additional NEPA analysis, and Section 7 consultation.

2.14.3 Parameter – Designated Wilderness

Management Actions

SD-5: Manage 22 designated wilderness areas in accordance with the Wilderness Act of 1964; the Nevada Wilderness Protection Act of 1989; the Lincoln County Conservation, Recreation, and Development Act of 2004; the White Pine County Conservation, Recreation and Development Act of 2006.

Twenty-two designated wilderness areas totaling approximately 1.1 million acres have been designated by Congress in this decision area. This includes six citizen-proposed areas of wilderness quality that were not managed by the Ely Field Office as wilderness study areas.

2.14.4 Parameter – Wilderness Study Areas

Management Actions

SD-6: The Ely Field Office currently manages the Park Range and Riordan's Well wilderness study areas in Nye County. Portions of the Blue Eagle and Antelope Range wilderness study areas, which are managed by the Battle Mountain Field Office, also overlap with the planning area. Wilderness study areas within the planning area total approximately 81,000 acres. Manage wilderness study areas under the Interim Management Policy for Lands Under Wilderness Review until such time as Congress makes a determination regarding wilderness designations. Manage lands identified as having wilderness characteristics to protect those characteristics through a variety of other land use plan decisions such as establishing visual resource management class objectives to preserve the existing landscape; attaching conditions to permits, leases, and other authorizations; and establishing limited or closed off-highway vehicle designations. Manage lands released from wilderness study area designation by Congress in the same manner as surrounding lands. In the event that lands released from wilderness study area designation are protected under some other special designation, those lands will retain those protections (e.g., ACECs within a wilderness study area). Wilderness study area lands not retained under some other special designation will be released for other purposes and uses. These other special designations are not a substitute for wilderness designation but provide specific management prescriptions to protect important resources.

2.14.5 Parameter – Other Special Designations

This section describes management for special designations other than those described in the previous subsections. The types of special designations include scenic areas, geologic areas, natural areas, research natural areas, and rock hound areas. No herd management areas are recommended for designation as wild horse ranges.

No rivers have been identified for wild and scenic designation with the planning area. A full inventory and evaluation has not occurred, however, it is planned for fiscal year 2008. This evaluation potentially could identify rivers or river segments within the Ely Field Office jurisdiction that are eligible for inclusion under the

Wild and Scenic Rivers Act. If appropriate, management actions associated with these locations will be amended to the Ely RMP.

Management Actions

SD-7: Manage the two special designation areas that are retained as follows:

- White River Narrows Archaeological District (500 acres)

  1. Roads – Maintenance of existing roads (except State Route 318) will only be allowed if it is determined that maintenance will not have an effect on the setting and features that placed this site on the National Register of Historic Places in 1978. New roads will not be permitted.

  2. Structures – Maintenance and construction of structures is allowed if identified in existing habitat management plans or if needed for management of natural values.

- The Garnet Hill Rock Hounding Area (totaling 1,210 acres)

  1. This entire area will be segregated from disposal under the public land laws. The recreation site (160 acres) will be closed to solid leasable, locatable, and mineral materials. In addition, the 160 acres will have a no surface occupancy condition for fluid minerals leasing.

SD-8: Designate the following 8 areas as ACECs (see Management Action SD-3):

- Scenic Areas – Blue Mass
- Natural Areas – Shoshone Ponds, Swamp Cedar
- Archaeological Sites – Rose Guano Bat Cave, Snake Creek Indian Burial Cave, Baker, Hendry's Creek/Rock Animal Corral, Mount Irish

SD-9: Drop the following nine areas, totaling 2,275 acres from special designation status:

- Scenic Areas – Kious Spring, Weaver Creek
- Geologic Areas – Goshute Cave, Leviathan Cave, Cave Valley Cave, Whipple Cave
- Research Natural Areas – Pygmy Sage
- Archaeological Sites – Baker Creek, Garrison

3.0 EXISTING ENVIRONMENT

3.1 Aquatic Habitat

Habitat is present on BLM-administered land for three fish species: Big Spring spinedace in Condor Canyon, Pahrump poolfish in the Shoshone Ponds, and White River springfish in Ash Springs (**Map 1-2**). Private land also surrounds a portion of the habitat occupied by White River springfish and Big Spring spinedace. Habitat for the other federally-listed species addressed in this BA is located on private, state, or tribal land surrounded by or adjacent to BLM-administered land. Land ownership for these species includes Hiko White River springfish (private), White River spinedace (private and state refuge), Pahranagat roundtail chub (private), and Railroad Valley springfish (private and tribal). The following information provides a description of aquatic habitat used by these species.

3.1.1 BLM-administered Land

3.1.1.1 Shoshone Ponds

The Shoshone Ponds Native Fish Refugium in Spring Valley, White Pine County, was established in the 1970s as a cooperative effort between the Nevada Department of Wildlife and the BLM to assist in the conservation and recovery of native fishes (Nevada Department of Wildlife 2003a). The ponds, which are located approximately 40 miles southeast of Ely, Nevada, are spring-fed impoundments located within Spring Valley. Shoshone Ponds consists of three small spring-fed ponds (North Shoshone, Middle Shoshone, and South Shoshone), which are located within a fenced exclosure, and a larger earthen pond (referred to as Stock Pond) located outside of the exclosure. Modifications were made to the pond system to prevent future vandalism and poolfish were replaced in 1976 from the Corn Creek Springs population. Grazing allotments in the vicinity of Shoshone Ponds are shown on **Map 3-1**.

3.1.1.2 Ash Springs

This spring complex is located approximately 9 miles north of Alamo, Nevada, within the Pahranagat Valley. Ash Springs consists of at least seven springs which originate from a contact between alluvium and bedrock (U.S. Fish and Wildlife Service 1998). As a result of construction of U.S. Highway 93, the outflow stream has been impounded and forms a large pool. The pool area is approximately 0.2 mile long and 1.6 to 6.6 feet deep. The bottom consists of sand and silt, with scattered locations of dense submergent vegetation and algal mats. A thick canopy of riparian vegetation borders the eastern bank. The spring pool provides consistent stream flow when the controlling gate is open. Below the highway, the outflow stream flows in a southwesterly direction and joins outflow from Crystal Spring. At this point, the stream is called the Pahranagat Ditch. The BLM-administered portion of Ash Springs has experienced a considerable increase in swimming and bathing use in recent years.

3.1.1.3 Upper Meadow Valley Wash

The portion of Upper Meadow Valley Wash relevant to the planning area is a small perennial stream in Condor Canyon located near Panaca, Nevada in Lincoln County. The segment that supports critical habitat for Big Spring spinedace is located in T1S, R68E, Sec. 13, 23, 24, 26, 27, and 28. The stream is fed by Delmue Springs and several other small springs. The stream is well confined within steep rock and soil formations, with average width and depth of approximately 8.7 and 0.6 feet, respectively (U.S. Fish and Wildlife Service 1993). In 1987, flow ranged from 2.24 to 6.95 cubic feet per second. The stream course within Condor Canyon was altered near the waterfall during construction of the Union Pacific Railroad Company track. The tracks were removed in 1984, but the 195-foot right-of-way remained and created an access route through the canyon. Public use of the canyon increased considerably after the tracks were removed.

Meadow Valley Wash crosses both private and BLM-administered land. Property boundary fences exist, with corners located on or in close proximity to the stream (U.S. Fish and Wildlife Service 1993). At times, livestock may concentrate within the riparian corridor. Grazing allotments in the vicinity of Condor Canyon are shown on **Map 3-2**.

Habitat conditions in Condor Canyon were adversely affected by a recent rangeland fire and flood. In 1999, a major rangeland fire resulted in loss of riparian vegetation, increased sedimentation from surrounding upland areas, and expansion of emergent vegetation (mostly cattails) into the channel. Tamarisk also is expanding in the riparian area but it is not considered severe and could likely be controlled with short-term measures (Hobbs et al. 2003). A Habitat Restoration Plan is being implemented to improve habitat conditions.

In January 2005, severe flooding occurred in Meadow Valley Wash/Clover Creek. While repairing sections of a blown-out track, the Union Pacific Railroad further damaged and altered hydrologic features and habitat within the stream. A Cease and Desist Order was issued in April 2006 due to the level of damage from earth-moving equipment. A NEPA analysis and Biological Report were completed (BLM 2005) and the U.S. Fish and Wildlife Service issued a Biological Opinion on Emergency Stabilization Measures (U.S. Fish and Wildlife Service 2005).

3.1.2 Non-BLM-administered Land

3.1.2.1 Pahranagat Valley

Pahranagat Valley is approximately 40 miles long and 7 miles wide. Its northern boundary is the constricted section of the valley located about 10 miles north of Hiko, Nevada (U.S. Fish and Wildlife Service 1998). The southern boundary is a constricted area immediately south of Maynard Lake. The valley contains a mixture of public lands administered by the BLM, U.S. Fish and Wildlife Service land, state lands, and private lands. Habitat for Pahranagat roundtail chub and Hiko White River springfish in the valley occurs primarily on private land. Habitat for White River springfish is surrounded by a mixture of private and BLM-administered land. The lower 25-mile section of the White River system contains a mixture of intermittent stream flow and spring outflows. Pahranagat Creek originates from two warm water springs, Ash and

Crystal. Approximately 90 percent of the creek has either been converted to irrigation ditches or is dewatered during the irrigation season (Tuttle et al. 1990, as cited in U.S. Fish and Wildlife Service 1998). The creek follows its historical channel for 2.2 miles and then is diverted into a concrete irrigation ditch. During the irrigation season, leakage from the highland irrigation ditch and a water right supplies a small quantity of water to the ditch for diversion. The ditch channel is intact about 6.7 miles north of Pahranagat National Wildlife Refuge and it flows into Upper Pahranagat Lake. During the winter months, the creek receives the entire volume of water discharged from Ash and Crystal Springs except for small amounts needed for stock water and flushing salts from agriculture fields.

Crystal Spring, located about 17 miles northwest of Alamo in Lincoln County, Nevada, is the second largest spring in the Pahranagat Valley system. It consists of two individual springs, one of which flows from an orifice in limestone bedrock and the other from a contact between alluvium and bedrock (U.S. Fish and Wildlife Service 1998). The spring has been repeatedly altered for agricultural uses. The main outflow (historical headwaters of Pahranagat Creek) continues for about 0.6 mile before flowing into a concrete irrigation channel. The lower 3.6 miles of the outflow is an earthen irrigation ditch that connects to Ash Springs outflow. However, water is only present in the upper 3 miles of the ditch for most of the year.

Hiko Spring is the northernmost and third largest spring in the Pahranagat Valley. The spring is located about 0.08 mile (422 feet) west of BLM-administered land. The entire outflow is diverted into underground pipes, which transport water to nearby agricultural lands. The only surface water that remains is an impoundment at the spring source and a small marsh created by seepage from the spring pool.

3.1.2.2 Upper White River Valley

Numerous springs in the Lund and Preston areas in White Pine County represent historic habitat for the White River spinedace. Current populations exist in a series of three springs (i.e., Flag Springs) in Sunnyside Creek, which is located in the Kirch Wildlife Management Area in Nye County. The outflows from Flag Springs combine to form Sunnyside Creek, which is a tributary to the White River. The springs are located approximately 0.05 mile (264 feet) from BLM-administered land to the east.

3.1.2.3 Railroad Valley

Numerous thermal springs are present in Railroad Valley, Nye County, Nevada, nine of which contain populations of Railroad Valley springfish. Six of the springs are located at Lockes and three at Duckwater, Nevada. The springs are located on private/tribal land with the closest BLM-administered land located approximately 0.08 (Lockes) to 0.2 mile (Duckwater) (422 to 1,056 feet) to the east. Big Warm Spring is the largest spring in Railroad Valley with the main pool being about 80 feet in diameter. The south outflow extends approximately 0.8 mile before entering Duckwater Creek. The north outflow extends approximately 0.2 mile before entering an underground pipe. Little Warm Spring is located about 1 mile south of Big Warm Spring. Outflows from this spring enter a marsh area. The four springs at Lockes are associated with a low calcareous tufa that forms a bluff to the east and south. Outflows from the springs enter a variety of areas including a livestock water pond and marshes.

3.2 Terrestrial Habitat

This section will focus on primary habitat conditions for the southwestern willow flycatcher, bald eagle, yellow-billed cuckoo, and desert tortoise. As a result, discussions will include existing conditions for riparian habitat and the Mojave Desert ecological system.

3.2.1 BLM-administered Land

3.2.1.1 Riparian Habitat

Within the planning area, there is a limited amount of surface water that manifests in perennial and ephemeral streams, small lakes, and groundwater springs. Riparian areas are transition areas between permanently saturated wetlands and the surrounding upland areas. These areas are characterized by vegetation or physical characteristics that reflect the relatively higher availability of moisture. Definitions contained in BLM Technical Reference 1737 exclude ephemeral streams and washes where riparian vegetation is absent as riparian areas in need of special management (BLM 1998).

Riparian wetland sites in the planning area are lentic, which refers to standing water as in lakes, springs, and bogs, or lotic, where water is flowing as in rivers and streams. There are approximately 188 miles and 3,100 acres of riparian/wetland vegetation in the planning area associated with lotic and lentic environments, respectively (BLM 2001b, BLM unpublished data). Riparian/wetland vegetation communities are diverse in composition and structure, ranging from herbaceous wetlands to drainages dominated by woody plants. Sedges, rushes, and cattails characterize herbaceous wetlands in the planning area. Virtually all of the riparian areas in the planning area are classified as emergent herbaceous wetlands. Important woody riparian plants on the planning area include narrow-leaf cottonwood (*Populus angustifolia*), willows (*Salix* spp.), aspen (*Populus tremuloides*), chokecherry (*Prunus virginiana*), water birch (*Betula occidentalis*), and dogwood (*Cornus* spp.), depending primarily on elevation and stream gradient.

One of the most substantial riparian habitats in the planning area is Meadow Valley Wash. Altered hydrologic conditions in Meadow Valley Wash are subject to frequent flash floods. This riparian area has been noted to have unstable soils and high levels of runoff, which have led to landslides and associated increases in sediment loading to the stream. In 2005, wildland fires and floods occurred in Meadow Valley Wash. These events have substantially affected the current condition of these riparian areas.

Livestock grazing allotments encompassing these riparian habitats are shown in **Maps 3-3** and **3-4** in relation to recorded occurrences of Southwestern willow flycatcher, which is dependent on such habitats.

Declines in native woody riparian species have been documented throughout the West and Great Basin. The extent to which woody riparian vegetation has been reduced from its former distribution in the planning area is not known.

The exotic tree tamarisk (*Tamarix chinensis*) has become established in waterways throughout the Intermountain West including available habitat in the planning area, where it has replaced native woody

riparian species such as cottonwood and willows. Inventories to date have located tamarisk infestations on approximately 12,500 acres and along 123 miles of watercourses.

A total of 108 sites (primarily springs) have been assessed for proper functioning condition, representing approximately 393 acres of lentic communities. Of these, 294 acres or 75 percent were classified as being in proper functioning condition; 85 acres or 22 percent were classified as functioning at risk. The remainder were determined to be non-functional. Throughout the entire planning area, it is estimated that approximately 713 acres of riparian communities are non-functional or functioning at risk.

3.2.1.2 Mojave Desert

The Mojave Desert ecological system occurs within a hot desert climate regime where ephemeral vegetation grows in response to infrequent precipitation events and tolerates extended dry periods. The primary vegetation communities that occur within the Mojave Desert ecological system in the planning area include creosotebush-bursage, blackbrush, Mojave mixed scrub, and salt desert scrub.

Community Descriptions

Creosote – Bursage Community. This vegetation community is found at lower elevations, most commonly from the bottom to the edges of broad alluvial valleys and on low hills below 4,000 feet in elevation. It is dominated by creosotebush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). Other common plants in this community include big galleta grass (*Hilaria rigida*), white burrobrush (*Hymenoclea salsola*), diamond cholla (*Opuntia ramosissima*), silver cholla (*Opuntia echinocarpa*), ratany (*Krameria erecta*), Russian thistle (*Salsola tragus*), plantain (*Plantago* sp.), desert globemallow (*Sphaeralcea ambigua*), and Mediterranean grass (*Schismus barbatus*).

Blackbrush Community. This community is found between 4,000 to 5,000 feet in elevation and is dominated by blackbrush (*Coleogyne ramosissima*). Other associated species include Mojave yucca (*Yucca schidigera*), banana yucca (*Yucca baccata*), Joshua tree (*Yucca brevifolia*), Nevada ephedra (*Ephedra nevadensis*), rabbitbrush (*Ericameria nauseosis*), and indigobush (*Psorothamnus fremontii*), juniper (*Juniperus osteosperma*), spiny hopsage (*Grayia spinosa*), morman tea (*Ephedra* spp.), shadscale (*Atriplex confertifolia*), desert thorn (*Lycium* spp.), snakeweed (*Gutierrezia sarothrae*), and creosotebush.

Mojave Mixed Scrub Community. This community is found through the Mojave Desert at elevations below 4,000 feet. Although creosotebush, white bursage, and some of the other species found in the creosotebush-white bursage community occur in this vegetation community, they are far less common than the creosote-bursage communities and this community is more diverse, with several species not found in creosote-bursage communities. Common species include: Mojave yucca, ratany, mormon tea, flat-top buckwheat (*Eriogonum fasciculatum*), paper bag bush (*Salazaria mexicana*), desert holly (*Atriplex hymenelytra*), buckhorn cholla (*Opuntia acanthocarpa*), diamond cholla, silver cholla, spiny menodora (*Menodora spinescens*), peppergrass (*Lepidium* sp.), goldeneye (*Viguiera deltoidea*), blackbrush, Joshua tree, desert trumpet (*Eriogonum inflatum*), and barrel cacti (*Ferocactus cylindraceus* var. *lecontei*).

Salt Desert Scrub Community. The community is found at elevations below 5,000 feet, and is primarily dominated by one or more of the following: shadscale, desert holly, Bailey's greasewood (*Sarcobatus baileyi*), desert thorn, Torry saltbush (*Atriplex torreyi*), winterfat (*Ceratoides lanata*), bursage, fourwing saltbush (*Atriplex canescens*), mormon tea, horsebrush (*Tetradymia canescens*), and snakeweed. Other associated species include greasewood (*Sarcobatus vermiculatus*), sagebrush (*Artemisia* spp.), blackbrush, and creosotebush.

Trends

Between June 22, 2005, and July 10, 2005, large fires consumed vegetation on approximately 750,000 acres in Clark and Lincoln counties (termed the South Desert Complex Fires of 2005), including extensive areas of Mojave Desert scrub. Lightning strikes caused most of the fires, which were fueled by high levels of non-native grasses resulting from above-average precipitation during the past 3 years. Burn patterns were highly variable with most acres burned under a low fire severity; however, the fires still resulted in the loss of surface vegetation over large portions of the landscape. For those tortoises surviving fire, the fires have caused the loss of food plants, the loss of cover sites under shrubs, the loss of available water (due to increased run-off and evaporation in the absence of vegetation), and facilitated the spread of non-native plants. Burned areas may take years, decades, or longer before pre-fire densities of tortoises can be supported.

A variety of vegetation types burned in the southern portion of the planning area during the South Desert Complex Fires of 2005, including communities dominated by creosotebush-white bursage, Mojave mid elevation desert scrub (e.g. blackbrush), warm desert washes, riparian vegetation, sagebrush shrublands, pinyon-juniper woodlands, and interior chaparral. Different vegetation types burned in the South Desert Complex Fires have differential natural recovery potentials following fire. Some vegetation types, such as scrub-oak, thrive with fire, and recover relatively quickly through re-sprouting. Other types, such as blackbrush dominated communities, are not fire resilient, and are expected to convert to invasive annual grasslands without intervention.

Three primary vegetation resource concerns were identified by a BLM review team, based on the objective to reestablish healthy watersheds with native vegetation in the burned area.

1) *Loss of fire-intolerant blackbrush dominated communities.* Different vegetation types that burned in the South Desert Complex Fires have different levels of tolerance to fire. Extensive areas dominated by blackbrush burned in the fires. Communities dominated by blackbrush are not resilient to fire. Blackbrush shrubs are highly flammable and do not re-sprout following fire, even after low-severity burns. A major concern is the slow re-establishment of blackbrush shrubs.

2) *Loss of native annual forbs important for desert tortoise.* Another concern is a loss of native annual forbs that are desirable for the threatened desert tortoise. The seed bank for these forbs was likely consumed by the fire. These forbs are forage for the desert tortoise.

3) *Establishment of noxious weeds.* Lastly, a major concern is the establishment and potential dominance of noxious weeds and invasive plants within the burned area. Of particular concern is Sahara mustard.

This invasive species threatens to spread rapidly northward through Lincoln County, to areas where it has not previously been found. The removal of vegetation associated with the burn gives this species a window of opportunity to spread northward.

Creosote – Bursage Community. The South Desert Complex Fires burned through approximately 165,000 acres out of a total of about 365,500 acres dominated by creosotebush and/or white bursage communities. In some areas, galleta grass is common in the understory. Creosotebush and white bursage are considered fire sensitive species. Recruitment of these dominants as well as associated four-wing saltbush, brittlebush, and three-awn grasses is generally by seed preserved in the seed bank.

Reconnaissance two months after fire containment and heavy rainstorms in July and August 2005 revealed that approximately one-third of creosotebush shrubs are re-sprouting. Fast moving fire left creosotebush skeletons intact, and seeds on upper branches of the shrubs remained unburned. It is unknown if these seeds remain viable. A majority of burned galleta grass plants are re-sprouting as well, based on observations made during reconnaissance in late August 2005. While re-sprouting vegetation is a positive sign in this community, propagules of invasive annual *Bromus* grasses are prevalent in the burned portions of this community type; increased dominance by invasive annual grasses is likely in burned portions of creosotebush-bursage communities.

Blackbrush Community. Approximately 315,000 acres of Mojave Desert mid-elevation desert scrub communities burned in the South Desert Complex Fires. In the burned areas, these communities were often dominated by blackbrush. Blackbrush communities dominate on approximately 748,000 acres within the planning area. Observation of adjacent unburned areas and unburned islands revealed that many blackbrush shrublands have dense cover and relatively little abundance of *Bromus* fine fuels, especially in shrub interspaces. In some areas, even though blackbrush shrubs were completely consumed by fire, low density invasive annual grasses (*Bromus*) remain unburned in the interspaces. Therefore, it is probable that blackbrush shrubs, rather than annual grasses, carried fires in this community.

Where fire burned through blackbrush communities, essentially all of the existing blackbrush was removed. Blackbrush, while extremely flammable, is not a fire tolerant species and individual plants are usually killed by even low severity fires. Studies indicate that blackbrush can take upwards of 60 years to reestablish (Anderson 2001) and possibly 1,000 years to be fully restored (Web et al. 2001). Other studies suggest that these sites are converted to other vegetation types and do not return as blackbrush sites (Callison et al. 1985, Haines et al. 2003). Burned yuccas were showing high levels of re-sprouting. Joshua trees occupying portions of the blackbrush community also were re-sprouting, but some of the re-sprouts were grazed.

In response to the South Desert Complex fires of 2005, livestock grazing has been temporarily suspended on the affected areas while plant communities recover. Grazing allotments in the Mojave Desert portion of the planning area are shown on **Map 3-5** in relation to desert tortoise habitat.

Of all vegetation types burned in the South Desert Complex Fires, blackbrush-dominated communities are the least likely to recover naturally. Changes to fire regimes, induced by flammable invasive annuals, threaten the long-term existence of blackbrush.

Warm desert wash vegetation. Areas where water intermittently flows during flash-flood events consist of communities of species that tend to re-sprout following fire. Common shrubs and small trees of warm desert washes include desert peach (*Prunus fasciculate*), desert willow (*Chilopsis linearis*), turbinella oak (*Quercus terbinella*), and skunkbush (*Rhus trilobata*). In many areas observed during reconnaissance two months after the fire, nearly 100 percent of shrubs in these washes were re-sprouting. It is expected that these communities can recover naturally, without fostered rehabilitation. Some wash areas were skipped by the fire, and remain unburned.

Riparian vegetation. Riparian vegetation dominates near springs and where water flows permanently. These communities are typically dominated by willows. It is likely that a majority of these vegetation communities surrounding water sources remain unburned. These areas were already important habitat for wildlife. Unburned riparian areas existing in a matrix of burned vegetation are likely to serve as a refuge for wildlife that have lost surrounding habitat. The large scale of the South Desert Complex Fires increases the demand of wildlife on riparian vegetation. Protection of riparian areas within a burned matrix as a refuge for wildlife is a concern.

3.2.2 Private, State, and Non-BLM-administered Federal Lands

3.2.2.1 Riparian Habitat

Key Pittman-Pahranagat Valley (State Wildlife Management Area) (T4S, R60E, Sec 23 and 27) Elevation 3,834 Feet

This site is located on the Key Pittman Wildlife Management Area, south of Hiko Springs off Highway 318. The site consists of coyote willow (*Salix exigua*) patches that are located on the western edge of Nesbitt Lake. The willow patches comprise 1.42 acres, with an average canopy height of approximately 28 feet. This area has been impacted by livestock grazing in 2004 (Nevada Department of Wildlife 2006). The southwestern willow flycatcher has been recorded at this site.

Ash Springs-Pahranagat Valley (Private) (T5S, R60E, Sec 13 and 23) Elevation 3,700 Feet

This site is located on a private ranch north of the town of Ash Springs. The site consists of discontinuous patches of coyote willow (15 to 35 feet tall), distributed within fields that are grazed. The fields also contain Fremont cottonwood (*Populus fremontii*) (65 to 95 feet tall), black willow (*Salix gooddingii*), some weeping willow (*Salix* spp.), and Russian olive (*Eleagnus angustifolia*). The pasture and meadow containing these willow patches is periodically inundated with water for cattle (Nevada Department of Wildlife 2003b). Both southwestern willow flycatcher and yellow-billed cuckoo have been recorded at this site.

Crystal Springs (Private) (T5S, R60E, Sec 10) Elevation 3,800 Feet

This site is located on the south side of Highway 375, near the intersection of Highway 375 and Highway 318, south of Key Pittman Wildlife Management Area. The habitat consists of spring-fed riparian habitat with two man-made ponds. Riparian overstory consists of Fremont cottonwood (80 to 90 feet tall), while black willow (50 to 60 feet tall) constitutes the mid-story. Other vegetation species include Russian olive and coyote willow. Cattle are not permitted in the riparian area (Nevada Department of Wildlife 2006). Both southwestern willow flycatcher and yellow-billed cuckoo have been recorded at this site.

Pahranagat National Wildlife Refuge (U.S. Fish and Wildlife Service)

The Pahranagat National Wildlife Refuge is located approximately 2.7 miles south of the town of Alamo in Lincoln County. This area consists of a series of lakes and marshes. The northern portion of the refuge is dominated by mature black willow at the inflow of Upper Pahranagat Lake. Fremont cottonwood lines the northern upland edge of the site and extends in narrow stringers around the edge of the lake. Canopy height within the patch is 50 to 65 feet, and canopy closure is greater than 90 percent (SWCA Environmental Consultants 2005). The lower portion of the refuge consists of a relatively small stringer of black willow, coyote willow, and Fremont cottonwood lining a human-made channel that carries the outflow from Upper Pahranagat Lake. The cottonwoods reach approximately 65 feet in height, while the willows are generally less than 35 feet tall. Tamarisk and Russian olive also occur in sparse patches within the refuge (SWCA Environmental Consultants 2005). Southwestern willow flycatchers and winter roosting bald eagles have been recorded at this site. Grazing allotments in this portion of the planning area are shown on **Map 3-4** in relation to recorded observations of Southwestern willow flycatcher.

Lower Meadow Valley Wash-Mile (Private) (T12S, R65E, Sec 13 and 23) Elevation 1,900 Feet

This site occurs on a private ranch located on Meadow Valley Road, 14 miles north of its intersection with State Route 168. The northern portion of the site is dominated by tamarisk, with relatively few black willow and Fremont cottonwood, and surrounded by arrowweed (*Pluchea sericea*). The southern portion of the site is dominated by 10- to 20-feet tall tamarisk with some tall coyote willow, honey mesquite (*Prosopis glandulosa*), ash, and black willow (Nevada Department of Wildlife 2003c).

Upper Meadow Valley Wash

This area provides habitat for a variety of special status species. Among these is the Ute ladies'-tresses orchid, which is known to occur on private land in a wet meadow north of Panaca. The wet meadow is associated with Panaca Spring and appears to be used for livestock grazing and/or hay production.

3.2.2.2 Mojave Desert

Same as described above for BLM-administered lands.

4.0 SPECIES ACCOUNTS/STATUS OF SPECIES IN THE PLANNING AREA

Proposed conservation and impact minimization measures for the Ely Proposed RMP have been discussed and evaluated in the context of Chapter 5.0, Effects of the Proposed Action on Listed Species. These management actions include an array of previous management actions, best management practices, and agency-committed actions from individual species recovery plans (see **Table 4-1**).

Table 4-1
Management Guidance for Federally-listed Species

Species	Plan/Citation
Ute ladies'-tresses	Ute Ladies'-tresses (*Spiranthes diluvialis)* Recovery Plan (U.S. Fish and Wildlife Service 1995a)
Pahrump poolfish	Recovery Plan Pahrump Killifish (U.S. Fish and Wildlife Service 1980)
Big Spring spinedace	Big Spring Spinedace Recovery Plan (U.S. Fish and Wildlife Service 1993); Big Spring Spinedace Monitoring and Nonnative Species Control Plan (Nevada Department of Wildlife 1999a); Big Spring Spinedace Recovery Implementation Plan (Draft) (Nevada Department of Wildlife 2000a); Condor Canyon Habitat Management Plan (Guerrero et al. 1989)
Hiko White River springfish, White River springfish, Pahranagat roundtail chub	Recovery Plan for the Aquatic and Riparian Species of Pahranagat Valley (U.S. Fish and Wildlife Service 1998); White River Valley Native Fishes Management Plan (Nevada Department of Wildlife 2000b), Pahranagat Valley Native Fishes Management Plan (Nevada Department of Wildlife 1999b)
White River spinedace	White River Spinedace Recovery Plan (U.S. Fish and Wildlife Service 1994b)
Railroad Valley springfish	Railroad Valley Springfish Recovery Plan (U.S. Fish and Wildlife Service 1996); Railroad Valley Springfish Species Monitoring Plan (Nevada Department of Wildlife 2000c)
Southwestern willow flycatcher	Southwestern Willow Flycatcher Recovery Plan (U.S. Fish and Wildlife Service 2002)
Desert tortoise	Desert Tortoise (Mojave Population) Recovery Plan (U.S. Fish and Wildlife Service 1994a); Endangered and Threatened Wildlife and Plants; Determination of Critical Habitat for the Mojave Population of the Desert Tortoise (U.S. Fish and Wildlife Service 1994c)

4.1 Ute Ladies'-tresses

4.1.1 Status of the Species in the Planning Area

The Ute ladies'-tresses (*Spiranthes diluvialis)* was listed as federally threatened in 1992 (U.S. Fish and Wildlife Service 1992). This species does not have designated critical habitat. The Recovery Plan does not include specific policies for management of potential orchid populations or habitat in Nevada. It does recommend that "some type of population and habitat monitoring should be initiated in each watershed until such time as a complete monitoring plan is designed and implemented," and that "drainages, seeps and springs in ... Nevada should be inventoried" (U.S. Fish and Wildlife Service 1995a). General threats to sensitive plant populations in the planning area have been reported to include; illegal collecting, habitat destruction and disturbance associated with resource extraction or utility and road construction, and livestock and wildlife trampling. The extirpation of several populations of Ute ladies'-tresses in Utah and Colorado caused genetic losses that most likely led to its need for federal protection. Because of the number and widespread distribution of populations discovered since the initial listing, the species has been petitioned for delisting, and on October 12, 2004, the U.S. Fish and Wildlife Service announced a 90-day finding that the petition presented sufficient information to initiate a status review to determine whether delisting was warranted. The subject status review was published in September 2005 (Fertig et al. 2005).

Records document a historic population of Ute ladies'-tresses within the planning area that once occupied a wet meadow adjacent to the Meadow Valley Wash just north of Panaca in Lincoln County (U.S. Fish and Wildlife Service 1995b) (see **Map 4-1**). Nevada Natural Heritage Program data indicates that this population occurred on private land. However, the precision of the mapped coordinates is classified as reliable only to the minute level; therefore, there is some uncertainty regarding the location record for this species. Despite searches, there were no observations of this population after 1936 (U.S. Fish and Wildlife Service 1995b) until the population was rediscovered in July 2005 (Fertig et al. 2005). This population is the westernmost known occurrence of this species.

There are approximately 21,800 acres of riparian habitat in the planning area. It is unknown how much of this area is suitable or potential habitat for the Ute ladies'-tresses.

4.1.2 Natural History and Habitat Association

Ute ladies'-tresses is a member of the orchid family. It is a perennial herb with erect, glandular-pubescent stem with tuberous-thickened roots (BLM 2003). This species can reach heights of 12-50 cm. The inflorescence is a loose spike 3-15 cm long of numerous small white to ivory flowers. Flowers are arranged in a gradual spiral (Fertig 2000, Fertig, et al. 2005). Ute ladies'-tresses flowers from late July to September. It is suspected that plants do not flower every year and possibly remain dormant underground during years of drought (BLM 2003). Ute ladies'-tresses typically inhabit moist, subirrigated or seasonally flooded soils at elevations between 1,800 and 6,800 feet (Fertig 2000). A wide variety of soils are inhabitable by the Ute ladies'-tresses including sandy or coarse cobbley alluvium to calcareous, histic or fine-textured clays and loams (BLM 2003). Suitable soils can be found in locations such as valley bottoms, gravel bars or floodplains along springs, lakes, rivers or perennial streams.

Sites where Ute ladies'-tresses are known to occur are characterized by short vegetation cover and periodic exposure to disturbances like flooding or livestock grazing (BLM 2003). The latter is probably responsible for the population dynamics of this species. This is in reference to its "movement" throughout a watershed as disturbances create new habitat and succession eliminates old habitat (Fertig 2000).

4.2 Pahrump Poolfish

4.2.1 Status of the Species in the Planning Area

This species was originally called the Pahrump killifish (*Empetrichthys latos latos*), but it was assigned the common name "poolfish" in 1991. Historically, separate populations occurred in three springs in Pahrump Valley in Nye County. Two of these populations are extinct (Pahrump Ranch and Raycraft Ranch). The Manse Ranch Spring population also disappeared in 1975, but it was transplanted to other sites to provide refugia populations. Presently, introduced populations exist in Shoshone Springs (public land in White Pine County). Poolfish were eliminated from the Shoshone Ponds Native Fish Refugium in 1974 when the water source was intentionally turned off. After successful reintroduction, Pahrump poolfish currently occupy three of the four ponds (North Shoshone, Middle Shoshone, and Stock Ponds) in the Shoshone Ponds (see **Map 4-2**). Based on surveys conducted in 1997 through 2004 (Hobbs et al. 2005, 2004, and 2003), population estimates (without variance statistics) showed the following ranges for the three spring-fed ponds:

- North Shoshone Pond – 89 in 2003 to 496 in 2004;
- Middle Shoshone Pond – 115 in 2003 to 1,714 in 1997; and
- Shoshone Stock Pond – 718 in 2003 to 6,572 in 2002.

4.2.2 Natural History and Habitat Association

Critical habitat has not been designated for Pahrump poolfish. This species occurs in shallow thermal springs and their outflow areas (Lee et al. 1980). In native springs inhabited by this species, larger individuals also utilized deeper waters in open water areas (U.S. Fish and Wildlife Service 1980). Young fish tend to utilize shallow areas with vegetation. During the breeding period, females seek seclusion in more remote areas of the spring. Fry usually remain near the bottom or adjacent to substrates for protection from predators. Observations on transplanted populations indicate that young fish are more active during daylight hours, while adults are more active at night (U.S. Fish and Wildlife Service 1980).

Pahrump poolfish are considered omnivores with food items consisting of a variety of invertebrate and plant material (U.S. Fish and Wildlife Service 1980).

Little is known about the life history of this fish. It probably produces few eggs per spawning event. Although it may spawn throughout the year due to existence in warm springs, most spawning probably occurs in March or April (Deacon and Minckley 1974, as cited in Sigler and Sigler 1987).

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4.3 Big Spring Spinedace

4.3.1 Status of the Species in the Planning Area

Originally, the Big Spring spinedace (*Lepidomeda mollispinis pratensis*) was collected from the outflow stream of Panaca Spring and its adjacent wet meadow near Panaca, Nevada, in Lincoln County (U.S. Fish and Wildlife Service 1993). This population was extirpated from these areas due to habitat modification and nonnative fish species introductions. The present distribution of this species is restricted to a 4-mile section of Meadow Valley Wash called the Condor Canyon reach located northeast of Panaca (see **Map 4-3**). The boundaries of the occupied habitat area are defined by perennial flow. A barrier falls at one end of the canyon restricts movement. Previous surveys in Meadow Valley Wash showed that the species occurred throughout most of the canyon. The largest numbers were collected in a plunge pool below the barrier falls. Based on surveys conducted from 1999 through 2004, population estimates (without variance statistics) have fluctuated from 2,267 to 8,984 (Hobbs et al. 2005, 2004, and 2003).

4.3.2 Natural History and Habitat Association

Critical habitat also was designated for the species in a 4-mile section of Meadow Valley Wash (above and within Condor Canyon) on private and public land in Lincoln County near Panaca, Nevada (U.S. Fish and Wildlife Service 1985). The primary constituent elements of critical habitat for this species include: 1) clean, permanent-flowing, spring-fed habitat with deep pools and shallow marshy areas along the shore; and 2) the absence of nonnative fishes (U.S. Fish and Wildlife Service 1993). Habitat characteristics of occupied habitat in Meadow Valley Wash pool areas with depths of 1 to 3 feet, moderate to slow stream velocities, undercut banks, and floating aquatic vegetation (U.S. Fish and Wildlife Service 1993). Bottom substrate consisted of clay and gravel (Sigler and Sigler 1987).

Habits and food items for Big Spring spinedace are unknown, but it is speculated that its feeding habits and food preferences are similar to other spinedace species such as Virgin River spinedace, which feeds on drifting invertebrates, algae, and other plant material.

Based on limited field observations, Big Spring spinedace spawn from March through June, with some limited activity continuing into July (University of Nevada – Reno 2002). Older females may produce eggs twice during one breeding season.

4.4 Railroad Valley Springfish

4.4.1 Status of the Species in the Planning Area

The Railroad Valley springfish (*Crenichthys nevadae*) is native to only two areas (Lockes Ranch area and Duckwater areas), both of which are located in Railroad Valley, Nevada (see **Map 4-4**). Nine thermal springs have populations of the species, six at Lockes and three at Duckwater. One of these areas, Duckwater, is located within the planning area. In addition to these populations, this species has been introduced into Chimney Warm Springs, Hot Creek Canyon (Dugan Ranch), and Sodaville Warm Springs. An introduction at Warm Springs failed.

Recent population information for the Railroad Valley springfish is only available for the Lockes area. Population studies were conducted by Nevada Department of Wildlife in 1997 through 2004 at five springs in the Lockes Ranch area occupied by Railroad Valley springfish (Hobbs et al. 2005, 2004, and 2003). These surveys showed the following ranges in population estimates (without variance statistics):

- North Spring – 587 in 2004 to 2,634 in 2000;
- Hay Corral – 346 in 2002 to 5,776 in 1999;
- Reynolds Spring – 983 in 1999 to 2,079 in 2001;
- Big Spring – 500 in 1998 to 4,982 in 2002; and
- Chimney Spring – 1,030 in 1997 to 3,356 in 2002.

4.4.2 Natural History and Habitat Association

This species is native to thermal spring systems in Railroad Valley, Nye County, Nevada (U.S. Fish and Wildlife Service 1996). Critical habitat also was designated at the time of listing, which included six springs historically occupied by this species. The locations included the springs along with portions of the outflow streams and marshes, and a 15-meter (50-foot) riparian zone around each of the springs. The springs occur in three locations: 1) Big Warm Spring (T13N, R36E, NE ¼ of Section 31, SE ¼ of Section 31, and NW ¼ of Section 32; 2) Little Warm Spring (T12N, R56E, Section 5; and 3) North Spring, Hay Corral Spring, and Reynolds Springs (T8N, R55E, SW ¼ of Section 11, NW ¼ of Section 14, SW ¼ of Section 14, SE ¼ of Section 15, NE ¼ of Section 15, and SW ¼ of Section 15 (U.S. Fish and Wildlife Service 1996).

Railroad Valley springfish are adapted to survive in spring environments with relatively high water temperatures (86° to 100° Fahrenheit) at the spring source and low dissolved oxygen concentrations (1.5 to 6.0 milligrams per milliliter) (U.S. Fish and Wildlife Service 1996). Constituent elements of critical habitat for this species include clear, unpolluted thermal spring waters ranging in temperatures from 84° to 97° Fahrenheit in pools, flowing channels, and marshy areas with aquatic plants, insects, and mollusks. Discharges in occupied springs ranged from <0.6 to 13.5 cubic feet per second (U.S. Fish and Wildlife Service 1996). Most of the discharges were 0.6 to 2.9 cubic feet per second. Current is negligible in the spring pools. The degradation of riparian habitats mainly caused by water diversion, overgrazing, and introduction of exotic fish has contributed to the listing status of the species (Nevada Department of Wildlife 2003a).

Railroad Valley springfish are indiscriminate and opportunistic feeders that utilize a variety of invertebrate and plant material as food items (Williams 1986). Stomach content analyses for this species revealed that plant material such as filamentous algae was preferred in the spring, and diets then shifted to invertebrates such as ostracods and other crustaceans in the summer. Feeding habits consisted of browsing on algal mats and consuming drifting food.

Spawning for this species is expected to be similar to White River springfish. In the largest of the occupied springs (Big Warm Spring), spawning probably occurs from March through November. It is possible

spawning can occur in the fall, winter, and spring months in the spring outflow. Eggs are deposited and attached to vegetation. Hatching likely occurs after a 5- to 7-day incubation period.

4.5 White River Spinedace

4.5.1 Status of the Species in the Planning Area

Historically, the White River spinedace (*Lepidomeda albivallis*) occurred in the White River near the confluence with Ellison Creek in White Pine County and below Adams-McGill Reservoir in Nye County (U.S. Fish and Wildlife Service 1994b). Historic distribution also included springs in White Pine County (Preston Big, Cold, Nicholas, and Arnoldson) and Nye County (Flag). The present distribution for this species is limited to Flag Springs and the upper portion of Sunnyside Creek, which include a series of three springs and stream segment located in the Kirch Wildlife Management Area (U.S. Fish and Wildlife Service 1994b) (see **Map 4-5**). The number of fish counted in surveys from 1991 through 2000 ranged from approximately 40 to 1,573 individuals (Stein et al. 2001). Recent estimates in September 2004 indicated 1,177 individuals (Hobbs et al. 2005).

4.5.2 Natural History and Habitat Association

Critical habitat was designated for three springs and their outflows plus the surrounding land areas at a distance of 15 meters (Preston Big Spring and Lund Spring in White Pine County and Flag Springs in Nye County). Historically, White River spinedace occupied stream and spring habitats in northern portions of the White River. The species now persists only in spring habitat. Observations in spring habitat occupied by this species included clear, cool water temperatures; open pools with aquatic vegetation; and bottom substrates consisting of gravel, sand, and mud (U.S. Fish and Wildlife Service 1994b). No information is available concerning habitat used by White River spinedace in riverine areas of the White River.

Habits and food items for White River spinedace are unknown, but it is speculated that this species feeds on drifting invertebrates suspended in the water column (Scoppettone et al. 1992, as cited in U.S. Fish and Wildlife Service 1994b). Feeding habits may be similar to Virgin River spinedace, which mainly consumes aquatic insect larvae as well as algae and other plant material when insects are not available (Rinne 1971 as cited in U.S. Fish and Wildlife Service 1994b; Minckley 1973). The food items are suspected to be obtained from plant surfaces.

The spawning period for this species is unknown. However, it probably broadcasts large numbers of eggs on substrate or aquatic vegetation (Sigler and Sigler 1987).

4.6 Pahranagat Fishes (Hiko White River Springfish, White River Springfish, and Pahranagat Roundtail Chub)

4.6.1 Status of the Species in the Planning Area

4.6.1.1 Hiko White River Springfish

Hiko White River springfish (*Crenichthys baileyi grandis*) occupies pools in Hiko and Crystal Springs in the Pahranagat Valley, Lincoln County, and has been introduced into Blue Link Spring in Mineral County, Nevada (see **Map 4-6**). Population numbers in Hiko and Crystal Springs have varied during the past 35 years. This species was extirpated from Hiko Spring in 1967 but reintroduced in 1984. In 1985 through 2000, population estimates were less than 1,000 to 6,000 (U.S. Fish and Wildlife Service 1998; Stein et al. 2001). Recent surveys estimated 853 fish in 2004 (Hobbs et al. 2005). Population estimates in Crystal Spring have ranged from <10 to about 350 fish (U.S. Fish and Wildlife Service 1998). In 2003 and 2004, Hiko White River springfish numbers in Crystal Spring varied from 396 (November 2003) to 895 in January 2003. Due to concern over potential declines in Hiko White River springfish populations, a refugium was created in 1984 by the Nevada Department of Wildlife at Blue Link Spring. This spring is not located in the planning area.

4.6.1.2 White River Springfish

Historic and the present distribution of White River springfish (*Crenichthys baileyi baileyi*) is restricted to Ash Springs and its outflow in Pahranagat Valley, Lincoln County, Nevada (see **Map 4-7**). The majority of the population is found in the pool; however, fish occasionally occur in the outflow stream (Tuttle et al. 1990). In the past 10 years, population numbers have ranged from approximately 1,200 to 9,800 (U.S. Fish and Wildlife Service 1998; Stein et al. 2001). Recent surveys in 2001 estimated 600 while minnow traps captured 10 fish in 2003 (Hobbs et al. 2004).

4.6.1.3 Pahranagat Roundtail Chub

Historically, Pahranagat roundtail chub (*Gila robusta jordani*) occurred in Crystal Spring, Hiko Spring, Ash Spring, and the Pahranagat River in Lincoln County, Nevada (Stein et al. 2001). The present distribution of this species is limited to approximately 2.2 miles in Pahranagat Creek and 1.6 miles in an irrigation ditch near Ash Springs on private land (see **Map 4-8**). The Nevada Department of Wildlife and other agencies have periodically surveyed for this species in the Ash Spring outflow to track population trends. Based on surveys conducted from 1997 through 2000, winter counts ranged from 121 to 213 and summer counts varied from 138 to 2,349 (Stein et al. 2001). The trend during these four years is that numbers have declined. In 2004, a new refugium was established for this species in Key Pittman Wildlife Management Area, a state area located near Hiko, Nevada. A total of 2,400 individuals were stocked in the refugium, which is a former irrigation reservoir that was lined and filled with well water. Surveys conducted in 2005 showed the presence of young-of-the-year, which suggests that reproduction has occurred.

4.6.2 Natural History and Habitat Association

4.6.2.1 Hiko White River Springfish

This species occupies two thermal springs (Hiko and Crystal) in the Pahranagat Valley, Lincoln County, Nevada (U.S. Fish and Wildlife Service 1998). These springs and their associated open outflows were designated as critical habitat for this species in 1985. Water temperatures typically range from about 26° to 28° Fahrenheit with pH between about 7 and 8 in the springs. Habitat characteristics consist of pools with relatively low outflow rate (< 7.0 cubic feet per second in Hiko Spring and <17.6 cubic feet per second in Crystal Spring) (U.S. Fish and Wildlife Service 1998). Stream bottom substrates mainly consist of sand and silt in the pools with dense aquatic vegetation. Activities that may adversely affect the critical habitat of this species include pollution of the springwater, introduction of exotic species, excessive withdrawal of water from nearby aquifers, and physical modifications of Hiko and Crystal Springs.

White River springfish species are considered feeding generalists that consume algae and numerous types of small invertebrates (Deacon and Minckley 1974; Williams and Williams 1982; and Wilde 1989). Small crustaceans such as amphipods usually represent the most abundant items in their diet (Wilde 1989). Diets also may consist of filamentous algae, vascular plants, and diatoms in combination with invertebrates, as observed for the Preston White River springfish (Williams and Williams 1982). Feeding habits can shift seasonally to plant material in the winter when invertebrate food sources decrease in abundance and diversity. Springfish typically forage on bottom substrates and plant surfaces, as indicated by the ingestion of bottom-dwelling invertebrates, plant fragments, and detritus. Feeding activity occurs during the daytime period (U.S. Fish and Wildlife Service 1998).

The spawning period for this species is expected to be similar to other springfishes, which can spawn at different times throughout the year (U.S. Fish and Wildlife Service 1998). Most females average two spawning periods per year, although the spawning season for the entire population can extend throughout the year.

4.6.2.2 White River Springfish

Critical habitat includes Ash Springs (Lincoln County, Nevada), its outflow, and the surrounding land for a distance of 50 feet (U.S. Fish and Wildlife Service 1998). Constituent elements of the critical habitat consist of warm water springs and their outflows and the adjacent riparian area, which provides cover and invertebrate food sources. Specific habitat characteristics in Ash Springs include a relatively large pool (0.2 mile in length) with depths ranging from approximately 1.6 to 6.6 feet. The pool contains dense submergent vegetation and sand and silt bottom substrates. Water temperatures range from approximately 88° to 97° F and the mean discharge is 0.56 cubic feet per second. Adult White River springfish occur at depths ranging from approximately 1.3 to 5.6 feet, but they prefer depths of 3.6 feet or greater. Juvenile fish tend to use shallower water (average of 2.1 feet).

The food habits of White River springfish are the same as discussed for the Hiko White River springfish.

The spawning period for this species is expected to be similar to other springfishes, which can spawn at different times throughout the year (U.S. Fish and Wildlife Service 1998). Most females average two spawning periods per year, although the spawning season for the entire population can extend throughout the year.

4.6.2.3 Pahranagat Roundtail Chub

Critical habitat has not been designated for this species. Adult and juvenile fish typically inhabit pools below riffle areas, but adults also utilize deeper water with flow. Chub larvae occur in quiet water near the water's surface and near stream banks. Adult fish exhibit seasonal changes in habitat use, with summer habitat consisting of deeper and slower water in comparison to the spring and winter (U.S. Fish and Wildlife Service 1998).

Pahranagat roundtail chub feed mainly on drifting invertebrates and to a lesser extent by browsing on bottom or plant substrates (U.S. Fish and Wildlife Service 1998). Occasionally, small fish such as mosquitofish have been eaten (Tuttle et al. 1990). The feeding rates of adult fish vary, with higher consumption of food items occurring in the winter than the summer.

The spawning period for this species generally occurs in January through early March, with peak activity in early to mid-February (U.S. Fish and Wildlife Service 1998). Habitat conditions in Pahranagat Creek consisted of relatively fast water in gravel-dominated substrates at depths ranging from about 2 to 3.5 feet.

4.7 Southwestern Willow Flycatcher

4.7.1 Status of the Species in the Planning Area

The southwestern willow flycatcher (*Empidonax traillii extimus*) was listed as federally endangered in 1995 (U.S. Fish and Wildlife Service 1995b). The range of this subspecies in Nevada is confined primarily to the southern portion of the state. No designated critical habitat for this subspecies occurs within or near the boundary of the planning area (62 Federal Register 39129). The final recovery plan for the southwestern willow flycatcher was published in 2002 (U.S. Fish and Wildlife Service 2002).

The southwestern willow flycatcher has been documented at eight known locations in the planning area in Lincoln County (see **Maps 4-9** and **4-10**). One location occurs at the Pahranagat National Wildlife Refuge where this subspecies was recorded in 1976, 1979, 1986, 1989, 1990, 1991, 1994, 2004, and 2005. This subspecies also was recorded at Key Pittman Wildlife Management Area where breeding pairs were detected in consecutive years from 1999 through 2005. Breeding pairs also were detected at Crystal Springs in 2002 and near the town of Ash Springs in 1999, 2000, and 2001. Southwestern willow flycatchers were recorded in 1998 at three sites including a site just southwest of the Delamar Mountains in southern Lincoln County, a site south of the East Mormon Mountains in southern Lincoln County, and a site east of the Fortification Range in northern Lincoln County. A southwestern willow flycatcher also was detected at Lower Meadow Valley Wash in southern Lincoln County in 2002 (Nevada Department of Wildlife 2002, 2003, 2005, 2006; SWCA Environmental Consultants 2005, 2006).

4.7.2 Natural History and Habitat Association

The southwestern willow flycatcher typically establishes nesting sites and foraging areas in dense riparian or wetland thickets where water or saturated soils comprise at least part of the substrate. Depending on the location, vegetation in the flycatcher's preferred nesting habitat can include willow shrubs (*Salix* spp.), seep willow (*Baccharis* spp.), arrowweed (*Pluchea* spp.), buttonbush (*Cephalanthus* spp.), Goodding's willow (*Salix gooddingii*), boxelder (*Acer negundo*), thinleaf alder (*Alnus tenuifolia*), and water birch (*Betula occidentalis*); these shrub associations may have a scattered overstory of cottonwoods (*Populus* spp.). In some locations, exotic plants, including Russian olive (*Eleagnus angustifolia*) and tamarisk (*Tamarix chinensis*), also are used for nesting (Sogge et al. 1997).

Generally, nesting areas consist of wide riparian zones with surface water nearby, characterized by low stream gradients and large, continuous patches of willow or other preferred shrubs. The range of acceptable patch sizes is unknown, although southwestern willow flycatchers have nested in patches as small as 1.5 acres and as large as 247 acres in Arizona (U.S. Fish and Wildlife Service 2002; Sogge and Marshall 2000). The southwestern willow flycatcher breeds in the late spring and early summer. The flycatchers typically occupy territories by mid-May, lay eggs by early June, and fledge young in late June or early July. The critical breeding period for this subspecies extends from May 1 through July 30. The flycatchers place their nests on horizontal branches or in the forks of medium to large shrubs or small trees where dense foliage will conceal the nests (Sogge et al. 1997).

The flycatcher forages in and occasionally above dense riparian vegetation, either gleaning insects from riparian foliage or taking insects on the wing. Willow flycatchers also forage along sandbars and water edges.

4.8 Desert Tortoise

4.8.1 Status of the Species in the Planning Area

The desert tortoise (*Gopherus agassizii*) was listed as federally threatened in 1990 (55 Federal Register 12178). A recovery plan for this species was prepared in 1994 (U.S. Fish and Wildlife Service 1994c). Critical habitat for the Mojave Desert population of the desert tortoise was designated in 1994 (59 Federal Register 5820). Two designated critical habitat units (Mormon Mesa Unit and Beaver Dam Slope Unit) occur within the planning area in southern Lincoln County (see **Map 4-11**).

The Nevada Department of Wildlife and the Nevada Natural Heritage Program have documented numerous desert tortoise sightings within the planning area. There have been several reports of desert tortoise burrows in the lowlands near the mountains from Ash Springs southward along Pahranagat Wash to the Lincoln County line. Sites occupied by desert tortoise are scattered throughout southeastern Lincoln County, with areas of concentration occurring along Kane Springs Wash, Meadow Valley Wash, and the region just south of the Tule Springs Hills. The desert tortoise population density ranges from low to moderate (0 to 20 individuals per square mile) throughout most of the habitat within the planning area. Tortoise densities within the Mormon Mesa ACEC have been estimated at 41 to 87 tortoises per square mile (U.S. Fish and

Wildlife Service 2001). Desert tortoise density estimates for the Beaver Dam Slope ACEC range from 5 to 56 per square mile, with an average adult density of 10 per square mile (U.S. Fish and Wildlife Service 2001). The northern portion of the Northeastern Mojave Recovery Unit (within Lincoln County) is where the tortoise reaches its northernmost extent in the distribution of the species, and where tortoises are typically found in low densities (about 10 to 20 adults per square mile) (U.S. Fish and Wildlife Service 2004).

There are approximately 726,000 acres of potentially suitable desert tortoise habitat in the planning area, of which approximately 245,000 acres in southern Lincoln County have been designated as critical habitat for this species. Subsequently, three ACECs (Kane Springs, Mormon Mesa, and Beaver Dam Slope) were designated by the BLM to assist in the recovery of the desert tortoise within the planning area. These ACECs, representing the best available habitat in the vicinity, encompass 203,670 acres or approximately 83 percent of the designated critical habitat for the desert tortoise in the planning area (BLM 2000).

Approximately 53,780 acres of desert tortoise critical habitat occurs outside these three ACECs within the planning area. The Ely Field Office manages this area in accordance with the existing Recovery Plan and direction provided by the USFWS in the April 15, 2005, letter to the Ely Field Office relative to addressing desert tortoise critical habitat in the Ely RMP/EIS. Desert tortoise critical habitat outside of the ACECs is protected, as appropriate, using management policies outlined in the Proposed Final RMP, including terms and conditions of the grazing permits.

4.8.2 Natural History and Habitat Association

The desert tortoise is found throughout the Mojave, Sonoran, and Colorado Deserts of California, Nevada, Utah, Arizona, and Mexico. Two distinct desert tortoise populations are recognized. The Sonoran population located east and south of the Colorado River, and the Mojave population found west and north of the Colorado River. In Nevada, the desert tortoise is generally restricted to Clark County and those portions of Nye and Lincoln counties south of 37 degrees North latitude and below approximately 4,100 feet in elevation (BLM 2004). The desert tortoise habitat boundary shown on **Map 4-11**, **Map 2-1**, and other maps within this document is based on the boundary used in BLM 2000, which approximates elevation contours ranging from 3,400 to 4,100 feet in various areas, depending on the habitat involved. The habitat areas include isolated elevations as high as 5,700 feet.

The population is largely confined to Mojave Desert scrub vegetation type, primarily creosote bush scrub and Mojave mixed scrub consisting of succulent scrub, cheesebush scrub, blackbrush scrub, hopsage scrub, shadscale scrub, microphyll woodland, Mojave saltbush-allscale scrub, and scrub-steppe vegetation types of the desert and semidesert grassland complex at elevations of or below 4,200 feet (U.S. Fish and Wildlife Service 2006). Tortoises most commonly inhabit areas with well-drained sandy loam soils.

The desert tortoise occupies flats, valleys, alluvial fans, and bajadas associated with sand loam or rocky soils (Arizona Game and Fish Department 2001; U.S. Fish and Wildlife Service 1994a), and are most abundant in creosotebush-white bursage plant communities, but also occur in lower densities in the blackbrush vegetation communities (BLM 2004). Desert tortoises are mainly herbivorous with diets consisting of a variety of herbaceous and woody plant materials (e.g., grasses, dicot annuals, perennials, shrubs, woody vines, and

succulents) (Arizona Game and Fish Department 2001). When a desert tortoise emerges from hibernation around February or March, it will survive on herbaceous shoots. Mating generally occurs in the spring, and eggs are laid in excavated nests near shrub or burrow entrances from May to July. Eggs are incubated 70 to 135 days (Desert Tortoise Preserve Committee, no date).

5.0 EFFECTS OF THE PROPOSED ACTION ON LISTED SPECIES

This chapter of the BA describes the effects of the Proposed RMP on listed species. In total, 19 programs were considered in the analysis of the Proposed RMP. Based on activities for each program, it was concluded that the management actions for nine of these programs (air resources, water resources, soil resources, fish and wildlife, cultural resources, paleontological resources, visual resources, forest/woodland and other plant products, and watershed management) would not affect any of the listed species. Potential effects of all other programs on listed species are discussed below.

Monitoring of special status species populations and habitat will be conducted as an element of the BLM's adaptive management approach. Monitoring will help to determine the relative success of management strategies. See Appendix B for proposed monitoring strategies for the programs that may affect special status species.

Four of the listed fish species and one listed plant species occur only on non-BLM-administered lands within the planning area. As discussed in Chapter 1.0, no effects are anticipated to these species from the BLM management programs discussed in Chapter 2.0.

5.1 Vegetation Resources

Vegetation treatments would be applied in both upland and riparian areas to achieve the desired ranges of conditions outlined in Section 2.1 Vegetation Resources. Depending on the specific situation, treatments could include herbicide application, mechanical methods such as chipping, sawing, mowing, or mulching and prescribed fire. Mechanical methods may involve the use of heavy equipment, off-highway vehicles, and hand tools in addition to broadcast seeding, and planting of live vegetation. See the discussion of tools and techniques in Appendix C.

5.1.1 Fish Species

Managing for desired range of conditions in the upland areas applies to all fish species as outlined in Section 2.1 Vegetation Resources (VEG-8, VEG-14, VEG-16, VEG-21). Vegetation treatments to achieve these desired ranges of conditions could occur in the upland areas and riparian vegetation communities (VEG-23 and VEG-24). As discussed in Section 2.1, these management actions would protect, maintain, and restore riparian vegetation, which would help stabilize the stream banks and reduce erosion.

These activities could result in short-term surface disturbance and potential erosion in down-gradient areas. In the long term, vegetation treatments would be expected to reduce soil erosion. Chemicals used in the uplands are not expected to reach streams or other water bodies due to the distances between these habitats and the areas where the treatments would occur.

5.1.1.1 Pahrump Poolfish

Adjacent upland areas contain pinyon-juniper and sagebrush in the Great Basin ecological system. Vegetation immediately surrounding the Shoshone Ponds includes swamp cedar (Rocky Mountain juniper). No vegetation treatment would occur in the area containing swamp cedar, and thus there would be no disturbances of the pond habitat by this management program.

Determination

Effect on Critical Habitat. Critical habitat for Pahrump poolfish has not been designated. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Vegetation Resources Program "may affect, not likely to adversely affect" Pahrump poolfish.

5.1.1.2 Big Spring Spinedace

Adjacent upland areas contain pinyon-juniper vegetation in the Great Basin ecological system. Critical habitat for Big Spring spinedace includes approximately 4 stream miles in Condor Canyon plus riparian vegetation (50 feet on either side of the stream) primarily consisting of box elders, willows, and tamarisks. These species provide shading, stabilize water temperature and oxygen content, and help to prevent siltation from surface disturbance close to the habitat. Vegetation management activities would focus on upland areas outside the riparian zone producing no direct and negligible indirect effects to Big Spring spinedace habitat. Activities would focus on maintaining riparian and upland vegetation that provides shading and insects and other invertebrates as a food source for springfish over the long term. Management actions involving removal of tamarisk and other invasive species in the riparian zone in the short term are discussed in Section 5.11, Noxious and Invasive Weed Management.

Determination

Effect on Critical Habitat. The BLM has determined that the Vegetation Resources Program would not disturb or destroy beyond negligible levels any critical habitat for the Big Spring spinedace.

Effect on the Species. The BLM has determined that the Vegetation Resources Program "may affect, not likely to adversely affect" Big Spring spinedace.

5.1.1.3 White River Springfish

Upland vegetation consists of black brush and creosotebush within the Mohave Desert. Riparian vegetation surrounding Ash Springs consists of willows and cottonwood trees. Vegetation management activities would focus on upland areas outside the riparian zone producing no direct and negligible indirect effects to White River springfish habitat. Management actions involving removal of tamarisk are discussed in Section 5.11, Noxious and Invasive Weed Management.

Determination

Effect on Critical Habitat. The BLM has determined that the Vegetation Resources Program would not disturb or destroy beyond negligible levels any critical habitat for the White River springfish.

Effect on the Species. The BLM has determined that the Vegetation Resources Program would have "no effect" on White River springfish.

5.1.2 Wildlife Species

5.1.2.1 Southwestern Willow Flycatcher

Vegetation management and treatments in riparian communities would emphasize protection, maintenance, and restoration of riparian habitat (VEG-23). As discussed in Section 2.1, these management actions would help stabilize the stream banks and reduce erosion (VEG-23).

Vegetation management activities could result in short-term surface disturbance of riparian vegetation communities. Indirect impacts to the Southwestern willow flycatcher on BLM-administered lands would result from increased noise and human presence. Potential direct and indirect impacts to these species from site-specific restoration and maintenance activities would be minimized through implementation of management actions. Within areas of suitable habitat for the Southwestern willow flycatcher on public lands, the BLM would implement those recommendations of the Final Recovery Plan for Southwestern Willow Flycatcher that apply under its jurisdiction including management of exotic plant species and restoration of native vegetation.

In the long term, vegetation management actions would be expected to improve riparian habitats for this species. Beneficial effects from these actions within riparian/wetlands habitats in the planning area would include long term reduction in erosion, habitat degradation, and noxious and invasive species; and increased habitat quality, improved nesting and foraging habitat, and potential increases in species distribution. Potential vegetation treatments within suitable Southwestern willow flycatcher habitat would be conducted primarily as site-specific manual efforts involving tamarisk removal, willow plantings, and seeding of minor disturbed areas. The BLM has determined that these activities would result in long-term benefits to the species and that the short-term disturbance of habitat would be negligible.

Determination

Effect on Critical Habitat. Critical habitat for the Southwestern willow flycatcher does not occur within the planning area. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Vegetation Resources Program "may affect, not likely to adversely affect" the Southwestern willow flycatcher.

5.1.2.2 Desert Tortoise

Vegetation communities within the Mojave Desert ecosystem would be managed for the desired ranges of conditions as outlined in Section 2.1 Vegetation Resources (VEG-21 and VEG-22). These desired ranges of condition would be achieved through integrated treatments which may include a wide array of tools and techniques (VEG-1). See Appendix C.

Vegetation treatments would be performed on a very limited basis in the Mojave Desert ecosystem and, therefore, effects on critical habitat for desert tortoise would be minimal. If treatments were performed, short-term effects could include impacts from herbicide application, mechanical treatments, limited application of prescribed fire, broadcast seeding, and planting of live shrubs and trees. Potential short-term impacts to the desert tortoise from restoration and maintenance activities could include increased harassment, crushing of burrows, injury or mortality of individuals from vehicles or machinery, and disruption of behavior. Indirect impacts from noise and human presence could further reduce habitat quality in the vicinity of vegetation treatments in the short term. As indicated in the Proposed RMP and Final EIS, the major emphasis for vegetation treatment within the Mojave Desert would be the control of the spread of invasive and noxious weeds. Only a small percentage of this vegetation type (<15 percent) would be scheduled for vegetation treatment as opposed to maintenance types of management. Potential direct and indirect impacts to the desert tortoise from site-specific restoration and maintenance activities would be minimized by implementation of management actions and BLM best management practices. In the long-term, beneficial effects from management actions would improve habitat quality.

Determination

Effect on Critical Habitat. The BLM has determined that the Vegetation Resources Program would not disturb or destroy beyond negligible levels any critical habitat for desert tortoise, both inside and outside of the ACECs.

Effect on the Species. The BLM has determined that the Vegetation Resources Program would "may affect, not likely to adversely affect" desert tortoise, both inside and outside of the ACECs.

5.2 Special Status Species Habitat

As discussed in Section 2.2, Special Status Species, a number of the management actions would apply to all federally listed species: 1) prioritize conservation, maintenance, and restoration for federally listed and federal candidate species (SS-1); 2) implement interagency inventory and monitoring programs (SS-2); 3) participate in interagency recovery implementation teams (SS-3); 4) where appropriate, mitigate disturbance for permitted activities on a 2-to-1 ratio for all species except desert tortoise (SS-10); and 5) ensure that habitats for federally listed species are protected, maintained, or restored. As listed in Appendix A, Section 1, numerous best management practices also would avoid or minimize impacts to federally listed species. In addition, Section 7 compliance would be required for all actions on federal land to protect federally listed species. The following beneficial effects could result from these management actions: 1) maintain or increase population numbers by implementing recovery and habitat enhancement measures; 2) improve quality and increase quantity of habitat and population numbers as a result of the 2-to-1

mitigation ratio for disturbance to habitat for sensitive species; 3) improve water quality conditions involving turbidity levels by reducing or restricting surface disturbance.

Management actions that would be implemented to maintain, protect, or restore habitat for particular federally listed species are discussed below. Except where noted, these management actions would apply to implementation of all other programs within the planning area. These management actions would provide beneficial impacts to federally listed species.

5.2.1 Fish Species

5.2.1.1 Pahrump Poolfish

Habitat for this species would be protected in the short and long term by managing the refugium at Shoshone Ponds in accordance with the recovery plan (SS-11). Surface disturbance and sediment input to the ponds would be minimized by expanding the fenced area around the ponds. Management of the area around the ponds would focus on enhancing vegetation cover and reducing runoff and sedimentation into the ponds, thereby improving water quality (SS-13). Additional habitat for the species also would be created by adding additional ponds at the Shoshone Ponds area (SS-14).

Determination

Effect on Critical Habitat. Critical habitat for Pahrump poolfish has not been designated. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Special Status Species Program "may affect, not likely to adversely affect" the Pahrump poolfish.

5.2.1.2 Big Spring Spinedace

Habitat for this species would be protected by implementing actions and strategies on public lands in accordance with the recovery plan for the species (SS-17). Recovery efforts would include protection of existing occupied habitat in Condor Canyon. Long-term beneficial effects of these measures would be maintaining or increasing population size by improvements in water quality, water quantity, or habitat conditions. Public information programs also would be used to educate the public on recovery efforts and actions that could adversely affect the species.

Determination

Effect on Critical Habitat. The BLM has determined that the Special Status Species Program would not disturb or destroy beyond negligible levels any critical habitat for Big Spring spinedace.

Effect on the Species. The BLM has determined that the Special Status Species Program "may affect, not likely to adversely affect" Big Spring spinedace.

5.2.1.3 White River Springfish

Habitat in Ash Springs would be managed by implementing actions and strategies identified in the Recovery Plan for the Aquatic and Riparian Species of Pahranagat Valley and the Ash Springs Coordinated Management Plan (U.S. Fish and Wildlife Service 1998) (SS-21). In accordance with this consultation between the BLM and U.S. Fish and Wildlife Service, mitigation and monitoring would be implemented for Ash Springs. Beneficial effects that would result from these efforts would include maintaining or increasing population size over the long term by improvements in water quality, water levels, or habitat conditions.

Determination

Effect on Critical Habitat. The BLM has determined that the Special Status Species Program would not disturb or destroy beyond negligible levels any critical habitat for White River springfish.

Effect on the Species. The BLM has determined that the Special Status Species Program "may affect, not likely to adversely affect" White River springfish.

5.2.2 Wildlife Species

5.2.2.1 Southwestern Willow Flycatcher

Southwestern willow flycatcher habitat would be managed by implementing actions and strategies identified in the Recovery Plan for the Southwestern Willow Flycatcher (SS-19). Implementation of the actions and strategies from this recovery plan, including management of livestock grazing, recreational activities, and exotic plant species, primarily would be applicable to potential habitats in Meadow Valley Wash and the Clover Creek drainage. See Section 5.1, Vegetation Resources for impacts from management of riparian vegetation.

This species would benefit in the long-term from management actions to mitigate habitat disturbance from discretionary permitted activities on a 2:1 ratio (SS-10). Limiting livestock grazing in Clover Creek and Lower Meadow Valley Wash through terms and conditions and/or season-of-use restrictions (SS-20) would benefit the Southwestern willow flycatcher in the long-term.

Determination

Effect on Critical Habitat. Critical habitat for the Southwestern willow flycatcher does not occur within the planning area. Therefore, while the management programs are designed to benefit suitable habitat for this species, an effects determination on critical habitat is not applicable.

Effect on the Species. The BLM has determined that the Special Status Species Program "may affect, not likely to adversely affect" Southwestern willow flycatcher.

5.2.2.2 Desert Tortoise

Protection of desert tortoise would continue to occur through the implementation of management actions (SS-24 to SS-33), and coordination with state and federal agencies, and desert tortoise working groups. In the short term, this would reduce the injury/mortality of individuals, and in the long-term, this would encourage upward tortoise population trends.

Habitat for this species would be improved through management actions to attain the desired range of habitat conditions within the Mojave Desert Vegetation. See Section 5.1, Vegetation Resources.

Determination

Effect on Critical Habitat. The BLM has determined that the Special Status Species Program would not disturb or destroy beyond negligible levels any critical habitat for desert tortoise, both inside and outside of the ACECs.

Effect on the Species. The BLM has determined that the Special Status Species Program "may affect, not likely to adversely affect" desert tortoise, both inside and outside of the ACECs.

5.3 Wild Horses

5.3.1 Fish Species

5.3.1.1 Pahrump Poolfish, Big Spring Spinedace, and White River Springfish

No wild horse herd management areas overlap habitat for these fish species. Therefore, there would be no direct impact to these species. There also would be no indirect impacts from managing wild horses within herd management areas adjacent to these species' habitats because the horse herds would be managed at appropriate management levels (WH-6) and there are no available water sources for the animals near these aquatic habitats.

Determination

Effect on Critical Habitat. The BLM has determined that the Wild Horses Program would not disturb or destroy beyond negligible levels any critical habitat for Big Spring spinedace or White River springfish. Critical habitat has not been designated for Pahrump poolfish. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Wild Horses Program would have "no effect" on Pahrump poolfish, Big Spring spinedace, and White River springfish.

5.3.2 Wildlife Species

5.3.2.1 Southwestern Willow Flycatcher

No wild horse management areas would overlap with suitable Southwestern willow flycatcher habitat (WH-4) (see **Map 2-2**). As a result, no direct or indirect impacts to Southwestern willow flycatcher would occur from the management of wild horses. In the long term, beneficial effects would occur from the removal of horses from approximately 157 acres of Southwestern willow flycatcher habitat as the Applewhite, Blue Nose Peak, Clover Mountain, Delamar Mountain, and Meadow Valley Mountain herd management areas are eliminated (WH-5) (see **Map 2-2**). These effects would include long term reduction in erosion, habitat degradation, and noxious and invasive species; and increased habitat quality, improved nesting and foraging habitat, and potential increases in species distribution. However, in the short-term, ongoing impacts could continue until the wild horses are removed.

Determination

Effect on Critical Habitat. Critical habitat for the Southwestern willow flycatcher does not occur within the planning area. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Wild Horses Program "may affect, not likely to adversely affect" Southwestern willow flycatcher.

5.3.2.2 Desert Tortoise

No wild horse management areas designated in the RMP would overlap with desert tortoise habitat. Two herd management areas that previously overlapped 74,550 acres of desert tortoise habitat outside of the ACECs (see **Map 2-2**) would be eliminated (WH-5). In the long term, this would benefit desert tortoise habitat with increased forage availability and cover, and the elimination of potential trampling from wild horses. However, in the short term, these ongoing direct impacts could continue until the wild horses are removed. Implementation of management actions (WH-8) would minimize potential impacts from wild horse management actions should wild horses enter desert tortoise habitat and need to be removed.

Determination

Effect on Critical Habitat. The BLM has determined that the Wild Horses Program would not disturb or destroy beyond negligible levels any critical habitat for desert tortoise, both inside and outside of the ACECs.

Effect on the Species. The BLM has determined that the Wild Horse Program would have "no effect" on desert tortoise inside the ACECs and "may affect, not likely to adversely affect" desert tortoise, outside of the ACECs.

5.4 Lands and Realty

Proposed land and realty actions related to corridors and disposals are depicted on **Maps 2-3** through **2-9**.

5.4.1 Fish Species

5.4.1.1 Pahrump Poolfish

Lands around Shoshone Ponds would be retained in public ownership because these lands would be designated as an ACEC (LR-2) (see **Map 2-32**). No corridors would be designated within 5 miles of Shoshone Ponds (LR-34) (see **Map 2-8**). Rights-of-way and other land-use authorization would not be granted within the Shoshone Ponds ACEC (LR-38 and LR-42). Therefore, lands and realty actions would not affect the Pahrump poolfish.

Determination

Effect on Critical Habitat. Critical habitat for Pahrump poolfish has not been designated. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Lands and Realty Program would have "no effect" on Pahrump poolfish.

5.4.1.2 Big Spring Spinedace

Lands in and around Condor Canyon would be retained in public ownership because these lands would be designated as an ACEC (LR-1 and LR-2) (see **Map 2-32**). The nearest potential land disposal areas are located approximately 3 miles downstream from Condor Canyon; therefore, no impacts would occur from these actions (LR-20) (see **Map 2-4**). No corridors would be designated within 3 miles of Condor Canyon (LR-34) (see **Map 2-8**). Condor Canyon would be an avoidance area for rights-of-ways and other land-use authorizations (LR-38 and LR-42). Therefore, lands and realty actions would not affect the Big Spring spinedace.

Determination

Effect on Critical Habitat. The BLM has determined that the Lands and Realty Program would not disturb or destroy beyond negligible levels any critical habitat for the Big Spring spinedace.

Effect on the Species. The BLM has determined that the Lands and Realty Program would have "no effect" on the Big Spring spinedace.

5.4.1.3 White River Springfish

Retention of designated critical habitat at Ash Springs would benefit the White River springfish (LR-1). No land disposal areas overlap with White River springfish habitat at Ash Springs (LR-20) (see **Map 2-5**). The nearest lands identified for disposal are approximately 4 miles away and down-gradient from the springs. Additional protection for White River springfish would be provided by the withdrawal of an 80-acre area around Ash Springs from disposal, rights-or-way, and other land use authorizations (LR-33) (see **Map 2-7**). No designated corridors occur within 5 miles of Ash Springs (LR-34) (see **Map 2-8**). Therefore, lands and realty actions would not affect the White River springfish.

Determination

Effect on Critical Habitat. The BLM has determined that the Lands and Realty Program would not disturb or destroy beyond negligible levels any critical habitat for White River springfish.

Effect on the Species. The BLM has determined that the Lands and Realty Program would have "no effect" on White River springfish.

5.4.2 Wildlife Species

5.4.2.1 Southwestern Willow Flycatcher

Lands along Clover Creek and Lower Meadow Valley Wash would be retained in public ownership because these lands would be designated as an ACEC (LR-2) (see **Map 2-32**). No land disposal areas have been identified in other BLM-managed habitat for the Southwestern willow flycatcher outside of Clover Creek and the Lower Meadow Valley (LR-20) (see **Maps 2-4, 4-8,** and **4-10**). Two designated corridors originate at Clover Creek and Lower Meadow Valley Wash (LR-34) (see **Map 2-8**). Direct impacts from construction activities within these corridors could include surface disturbance of riparian vegetation communities. Indirect impacts to the Southwestern willow flycatcher on BLM-administered lands would result from the incremental short term loss of nesting and foraging habitat and from increased noise and human presence. These impacts would be minimal because of the application of best management practices and they would occur only at an individual point along the habitat not following the length of the habitat. Lands around Clover Creek and Lower Meadow Valley Wash would be an avoidance area for rights-of-way and other land-use authorizations (LR-38 and LR-42). Therefore, issuance of rights-of-way and other land-use authorizations would not affect the Southwestern willow flycatcher.

There would be no direct impact to this species or its habitats from BLM land and realty actions within Pahranagat Valley since it occurs on private and state lands in this area and not on BLM-managed federal land (see **Map 4-10**). Indirect impacts from land disposal would include increased human presence, noise, and construction activity in the vicinity that could affect breeding and nesting behavior of the species (LR-20). There are two corridors designated in the vicinity of Hiko (see **Map 2-9**). Impacts from new right-of-way construction activities within these corridors would include intermittent noise and human presence that could affect breeding and nesting behavior of the species in the short term, if it is present in proximity to construction locations. Issuance of rights-of-ways and other land use authorization adjacent to

Southwestern willow flycatcher habitat in Pahranagat Valley also could have similar indirect impacts. These impacts would be reduced through implementation of best management practices (Appendix A, Section 1).

Determination

Effect on Critical Habitat. Critical habitat for the Southwestern willow flycatcher does not occur within the planning area. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Lands and Realty Program "may affect, not likely to adversely affect" Southwestern willow flycatcher.

5.4.2.2 Desert Tortoise

All designated critical habitat within the planning area, including the three existing desert tortoise ACECs, would be retained in federal ownership unless disposal results in the acquisition of land with higher quality habitat (LR-1 and LR-2) (see **Map 2-1**). These areas will be managed to assist desert tortoise recovery efforts (SS-24 through SS-33). Since the area within the three existing desert tortoise ACECs is considered the best available habitat in the planning area, the retention of these areas plus the designated critical habitat outside the ACECs would enhance tortoise recovery efforts in the Northeastern Mojave Recovery Unit.

Under the Proposed RMP, approximately 4,870 acres of non-critical desert tortoise habitat outside of desert tortoise ACECs have been identified for possible disposal (LR-20) (see **Maps 2-3**, **2-4**, and **2-5**). As a result, indirect impacts to desert tortoise habitat from land disposals could include the possible long-term loss of habitat as these lands are transferred to private ownership. Development and construction activities after transfer would cause loss of vegetation and habitat, and could result in short-term harm and harassment, and potential mortality of individual tortoises. Other possible indirect impacts from subsequent development activities on these lands could include the following:

- Increase in vehicle traffic and potential mortality of desert tortoises;
- Increased harassment and possible collection of desert tortoises by the public;
- Increased predation by pets and ravens;
- Increased barren areas that result in greater exposure of tortoises to predators;
- Potential effects of noise, dust, and vibration from construction activity;
- Spread of disease and subsequent disruption of established home ranges as a result of escaped or unauthorized releases of desert tortoises in the wild;
- Increased trash and litter leading to injury or mortality from ingestion;

- Exposure or ingestions of toxic materials from residential or illegal dumping sources; and

- Increased injury or mortality from falls into exposed construction excavations and trenches.

Acquisitions of land within tortoise habitat would help protect additional habitat from loss or degradation and assist in meeting the delisting criteria for the desert tortoise in the Northeastern Mojave Recovery Unit (LR-26).

Portions of five corridors identified in the Proposed RMP overlap with desert tortoise habitat, designated critical habitat, or desert tortoise ACECs (LR-34) (see **Map 2-8**). Approximately 56.6 miles of utility corridors would occur within the three existing desert tortoise ACECs, with 27.7 miles being located in the Kane Springs ACEC, 16.1 miles in Mormon Mesa ACEC, and 12.8 miles in the Beaver Dam Slope (Nevada) ACEC. Approximately 90 miles of utility corridors would occur within non-critical desert tortoise habitat and designated critical habitat outside of ACECs. Lands and realty actions that could occur within these corridors include but are not limited to power lines, pipelines, transmission lines, and highways. If fully developed, approximately 25,540 acres of desert tortoise habitat could be impacted outside of the ACECs (see **Table 5-1**). Tortoise habitat, within an unquantified portion of this total corridor area, already has been disturbed or destroyed by construction of existing rights-of-way.

Table 5-1
Potential Disturbance from Corridors within Desert Tortoise Habitat

Habitat Category	Miles of Corridor	Acreage
Non-critical desert tortoise habitat	48.2	14,820
Designated critical habitat outside ACECs	40.7	10,820
Designated critical habitat within ACECs	41.3	11,080
Totals	**120.2**	**36,720**

The ACECs would be considered avoidance areas for rights-of-way and other land use authorizations, but additional rights-of-way could be authorized subject to NEPA analyses and Section 7 consultation for specific right-of-way applications. Direct impacts from the authorization of additional rights-of-way within corridors in the ACECs could include the long-term incremental reduction of habitat and increased habitat fragmentation. Short-term impacts from construction, operation, and maintenance activities also could result in increased collection opportunities, crushing of burrows, injury/mortality from vehicles or equipment, and disruption of behavior. Indirect impacts from noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads could further reduce habitat quality in the vicinity of development areas. These impacts would be reduced through Section 7 consultation and implementation of management action (LR-49) and best management practices (Appendix A, Section 1).

Overhead power lines could provide additional perching sites for ravens along the 156 miles of designated corridors within desert tortoise habitat. By concentrating power lines in narrow corridors, particularly within the ACECs, raven perching sites would be localized rather than dispersed throughout desert tortoise habitat.

Rights-of-way and other land use authorizations could be authorized in desert tortoise habitat and designated critical habitat outside of ACECs. Short term and long-term impacts of these activities would be similar to those discussed above within the ACECs. Roads for utility rights-of-way could provide access into the three desert tortoise ACECs and increase the potential for tortoise mortalities and habitat degradation. Emphasizing co-location of communication sites would minimize the impacts to desert tortoise habitat (LR-35). These impacts within all types of desert tortoise habitat would be reduced through implementation of management actions (LR-49) and best management practices (Appendix A, Section 1). Payment of remuneration fees would compensate for acreage of tortoise habitat disturbed (LR-49).

Limiting Federal Aid Highway material site rights-of-way within a 1-mile-wide corridor along U.S. Highway 93 and Kane Springs Road within the Kane Spring ACEC, and the Carp-Elgin Road within the Mormon Mesa ACEC (LR-44) (see **Map 2-25**) would benefit tortoise habitat by limiting surface disturbances relating to material sites. The majority of the required mineral material pits would be located along Highway 93; the Nevada Department of Transportation would continue to hold their existing material site rights-of-way. The Lincoln County Road Department also may have the need for additional free use pits along the Kane Springs and Carp-Elgin roads. However, material sites will be restricted to not less than 10-mile separations (LR-44). Over the next 20 years, it is anticipated that no more than 500 acres of additional desert tortoise habitat loss would occur from these pits (primarily in non-critical habitat outside of the ACECs). Implementation of management actions (LR-47) and best management practices (Appendix A, Section 1) would reduce the impacts.

Direct impacts from the authorization of rights-of-way within corridors, development of communication sites, and other land use authorizations within desert tortoise habitat outside of desert tortoise ACECs could include the incremental reduction of habitat and increased habitat fragmentation. Indirect impacts from noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads could further reduce habitat quality in the vicinity of development areas. Impacts from construction, operation, and maintenance activities also could result in increased collection opportunities, crushing of burrows, injury/mortality from vehicles or equipment, and disruption of behavior. The evaluation of minimal impact uses on a case-by-case basis would ensure that protective measures for the desert tortoise and habitat were included within the authorizations. If appropriate, potential impacts from the management of lands and realty would be minimized through Section 7 consultation, where required, and implementation of management actions.

Determination

Effect on Critical Habitat. The BLM has determined that the Lands and Realty Program may temporarily disturb up to 21,896 acres of designated utility corridors (total corridor area) through critical habitat for desert tortoise (an unquantified portion of this area has already been disturbed or destroyed by existing rights-of-way). It is probable that only a small percentage of this corridor area would be physically disturbed. Approximately two-thirds of this area is within the ACECs and one-third is outside the ACECs.

Effect on the Species. The BLM has determined that the Lands and Realty Program "may affect, likely to adversely affect" desert tortoise, both inside and outside of the ACECs.

5.5 Renewable Energy

5.5.1 Fish Species

5.5.1.1 Pahrump Poolfish, Big Spring Spinedace, and White River Springfish

Although development of wind and solar energy projects could occur throughout the planning area (see **Maps 2-10** and **2-11**), the topographic setting of aquatic environments discussed in this BA is not conducive to such energy development, and wind energy development would conform to BLM Wind Energy Development Policies and Best Management Practices (RE-2). Therefore, the potential for wind and solar energy projects to impact fish species is considered to be slight. As discussed in Section 2.2, the presence of special status species would be considered in NEPA analyses when making decisions on renewable energy land authorizations. This would apply to all federally listed fish species that also would require Section 7 consultation. Proposed projects would be subject to NEPA and Section 7 compliance, which would ensure that potential impacts to federally listed fish species would be mitigated.

Biomass energy development could occur in relation to vegetation restoration (RE-7). Biomass energy development would be dependent on vegetation treatment of woodland communities on upland sites. No direct or indirect impacts are anticipated to the habitats of these species.

Determination

Effect on Critical Habitat. The BLM has determined that the Renewable Energy Program would not disturb or destroy beyond negligible levels any critical habitat for Big Spring spinedace and White River springfish. No critical habitat has been designated for Pahrump poolfish. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Renewable Energy Program would have "no effect" on Pahrump poolfish, Big Spring spinedace, and White River springfish.

5.5.2 Wildlife Species

5.5.2.1 Southwestern Willow Flycatcher

Habitat for this species on BLM-administered lands occurs within the proposed Lower Meadow Valley Wash ACEC which would be closed to renewable energy development (RE-6). Therefore, renewable energy development would not affect the species.

Determination

Effect on Critical Habitat. Critical habitat for the Southwestern willow flycatcher does not occur within the planning area. Therefore, an effects determination on critical habitat for Southwestern willow flycatcher is not applicable.

Effect on the Species. The BLM has determined that the Renewable Energy Program would have "no effect" on Southwestern willow flycatcher.

5.5.2.2 Desert Tortoise

The three desert tortoise ACECs, totaling approximately 203,670 acres, are closed to renewable energy development (RE-6). Thus no impacts are anticipated from renewable energy development in these areas. Approximately 120 acres of moderate to high potential wind areas occur within designated critical habitat and 2,670 acres in non-critical habitat outside of ACECs. In addition, there are approximately 46,200 acres and 348,950 acres of moderate to high potential solar areas within designated critical habitat and non-critical habitat outside of ACECs, respectively (see **Maps 2-10** and **2-11**). However, the amounts of moderate to high potential wind and solar areas that occur within desert tortoise habitat (excluding ACECs) represent small percentages (15.5 and 4.8 percent, respectively) of the identified moderate to high potential wind areas (approximately 273,300 acres) and solar areas (approximately 7.2 million acres) in the planning area, thus indicating a relatively low probability for renewable energy development within desert tortoise habitat. Extrapolating a uniform distribution of the 40,000 acres of rights-of-way and 4,000 acres of physical disturbance in the reasonably foreseeable renewable energy development scenario for the entire planning area, it is estimated that approximately 184 acres of long-term surface disturbance may occur within desert tortoise habitat. Of this amount, approximately 18 acres is projected to occur within critical habitat outside of the ACECs. It is likely however, that the increased difficulty and mitigation costs associated with developing facilities of this type within desert tortoise habitat would substantially reduce the probability of such development. None of the disturbance is projected to occur within the ACECs. Impacts associated with renewable energy development within desert tortoise habitat would be similar to those described for rights-of-way and other land use authorizations in Section 5.4.2. Desert tortoise habitat generally is unsuitable for development of biomass energy facilities.

Determination

Effect on Critical Habitat. The BLM has determined that the Renewable Energy Program would not disturb or destroy beyond negligible levels any critical habitat for desert tortoise within the ACECs; outside the ACECs, the program could temporarily disturb or permanently destroy approximately 18 acres of critical habitat, although the likelihood of such development is very low.

Effect on the Species. The BLM has determined that the Renewable Energy Program would have "no effect" on desert tortoise within the ACECs; outside the ACECs, the program "may affect, likely to adversely affect" desert tortoise.

5.6 Travel Management and Off-highway Vehicle Use

5.6.1 Fish Species

5.6.1.1 Pahrump Poolfish, Big Spring Spinedace, and White River Springfish

Off-highway vehicle use in the areas surrounding habitat occupied by Pahrump poolfish, Big Spring spinedace, and White River springfish would be restricted to existing roads and trails until site-specific transportation plans are developed (TM-4). This would reduce sediment-related effects on habitat to these species in comparison to the current open use situation. If new roads or trails are designated, NEPA review and Section 7 compliance would be required to identify mitigation to avoid or minimize effects on federally listed species.

No direct impacts are anticipated in relation to Travel Management and Off-highway Vehicle Use, and indirect effects (siltation, water quality degradation) will be reduced due to the additional travel restrictions.

Determination

Effect on Critical Habitat. The BLM has determined that the Travel Management and Off-highway Vehicle Use Program would not disturb or destroy beyond negligible levels any critical habitat for Big Spring spinedace and White River springfish. Critical habitat has not been designated for Pahrump poolfish. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Travel Management and Off-highway Vehicle Use Program "may affect, not likely to adversely affect" Pahrump poolfish, Big Spring Spinedace, and White River springfish.

5.6.2 Wildlife Species

5.6.2.1 Southwestern Willow Flycatcher

Motorized vehicle use would be restricted to existing roads and trails until the designation process is completed and subsequently in the majority of the planning area (approximately 10.3 million acres) to designated roads and trails (TM-4 and TM-5). Since the majority of southwestern willow flycatcher habitat within the planning area occurs on lands that are not managed by the BLM (e.g., Pahranagat National Wildlife Refuge, Key Pittman Wildlife Management Area, and private lands), these areas would not be directly impacted by the Ely Field Office's management of transportation and off-highway vehicle use. Direct impacts to riparian habitats for this species on BLM-administered land (i.e., within the Lower Meadow Valley Wash ACEC [see **Map 2-32**]) from off-highway vehicle use would be limited to activities on designated roads and trails. No new roads would be constructed. Indirect impacts from increased noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads and trails could further reduce habitat quality in the vicinity of the designated roads and trails. Potential impacts to this species and its habitat would be minimized through implementation of the Ely transportation planning process (TM-4), and implementation of BLM best management practices. Long-term beneficial effects to

this species would result from 1) the closure of approximately 1 million acres to off-highway vehicle use, including 7 miles of southwestern willow flycatcher habitat located in the proposed Lower Meadow Valley Wash ACEC (see **Maps 2-12** and **2-32**), and 2) the restriction of motorized vehicles to existing roads and trails until the designation process is completed and subsequently to designated roads and trails (TM-4 and TM-5). Closure to off-highway vehicle use would result in long term reduction in erosion, habitat degradation, and noxious and invasive species; and increased habitat quality, improved nesting and foraging habitat, and potential increases in species distribution.

Determination

Effect on Critical Habitat. Critical habitat for the Southwestern willow flycatcher does not occur within the planning area. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Travel Management and Off-highway Vehicle Use Program "may affect, not likely to adversely affect" Southwestern willow flycatcher.

5.6.2.2 Desert Tortoise

The management actions for the travel management program are largely administrative, and the Field Office considers them to be unlikely to adversely affect desert tortoise. Management of motorized vehicle use within the three desert tortoise ACECs would include limitation of off-highway vehicle use to designated roads and trails (TM-5), except within designated wilderness areas, which are closed (approximately 40,160 acres in Mormon Mesa ACEC and 32,365 acres in Kane Springs ACEC) (TM-1). Approximately 73 miles of existing roads and trails occur within the three ACECs. Establishment of new trails would be restricted within the ACECs (TM-6). This limitation lessens the possibility for direct mortalities and the crushing of burrows as a result of cross-country vehicular traffic in the 203,670 acres of the three desert tortoise ACECs. Motorized vehicle use within desert tortoise habitat outside the ACECs also would be restricted to designated roads and trails (TM-5). Approximately 23 miles of roads and trails exist in critical habitat outside the ACECs. Potential impacts to the desert tortoise from off-highway vehicle use or the construction or maintenance of roads within the planning area outside the ACECs could include the loss of habitat and increased habitat fragmentation. Indirect impacts from noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads and trails could further reduce habitat quality in the vicinity of the designated roads and trails. Impacts also could result from increased collection opportunities, injury/mortality from vehicles, and disruption of behavior. Potential impacts to desert tortoise would be minimized through implementation of management actions such as TM-5, which would help reduce mortality on specific road segments. Long-term beneficial effects to this species would include the closure of approximately 244,480 acres of desert tortoise habitat in designated wilderness areas to off-highway vehicle use (see **Map 2-12** and **Table 5-2**). Limiting recreational off-highway vehicle use to designated roads and vehicle trails also would continue to minimize the proliferation of new roads and trails within desert tortoise habitat and the loss or fragmentation of desert tortoise habitat. This limitation also would lessen the possibility for direct mortalities and the crushing of burrows, as a result of cross-country vehicular traffic in the 203,670 acres of the three desert tortoise ACECs.

Table 5-2
Closures to Off-highway Vehicle Use in Designated Wilderness
Within Desert Tortoise Habitat

Habitat Category	Acreage Closed to Off-highway Vehicle Use
Non-critical habitat outside ACECs	169,910
Designated critical habitat outside ACECs	2,110
Non-critical habitat within ACECs	11,510
Designated critical habitat within ACECs	60,950
Total Off-highway Vehicle Closures in Desert Tortoise Habitat	**244,480**

Determination

Effect on Critical Habitat. The BLM has determined that the Travel Management and Off-highway Vehicle Use Program would not disturb or destroy beyond negligible levels any critical habitat for desert tortoise, either inside or outside of the ACECs.

Effect on the Species. The BLM has determined that the Travel Management and Off-highway Vehicle Use Program "may affect, not likely to adversely affect" desert tortoise, both inside and outside of the ACECs.

5.7 Recreation

5.7.1 Fish Species

5.7.1.1 Pahrump Poolfish and Big Spring Spinedace

Special recreation management areas (REC-2) are not planned in locations that would affect the Shoshone Ponds or Condor Canyon (see **Map 2-13**). Dispersed recreational use involving walking on trails or vehicle traffic on existing roads and trails could result in short-term surface disturbance (REC-5) with minor to negligible effects to Pahrump poolfish and Big Spring spinedace habitat. The motorcycle special recreation permit areas (REC-11) (**Map 2-14**) and motorcycle/truck race routes (REC-12 through REC-15) (**Map 2-15**) would not directly or indirectly affect habitat for Pahrump poolfish and Big Spring spinedace, since these activities would not occur near the Shoshone Ponds or Condor Canyon, respectively.

Determination

Effect on Critical Habitat. The BLM has determined that the Recreation Program would not disturb or destroy beyond negligible levels any critical habitat for Big Spring Spinedace. Critical habitat has not been designated for Pahrump poolfish. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Recreation Program "may affect, not likely to adversely affect" Pahrump poolfish and Big Spring Spinedace.

5.7.1.2 White River Springfish

One new special recreation management area (Pahranagat Recreation Management Area) would occur in Pahranagat Valley including the Ash Springs area (REC-2) (see **Map 2-13**). Dispersed recreational use involving walking on trails or off-highway vehicle travel on roads and trails could result in surface disturbance (REC-5). Ash Springs is a commonly used recreation site with activities occurring both in the upland areas and in the waterbodies associated with the spring. Upland activities, such as walking on trails, do not directly impact the habitat for Big Spring Spinedace. Recreational swimming and related activities have the potential to disturb bottom substrates and aquatic vegetation as well as cause direct mortality of eggs and larvae. Only 0.1 acre of critical habitat for the White River springfish occurs on BLM land, therefore, the majority of impacts and management of those impacts are outside the purview of the Ely Field Office management. Increased signage to educate users of the Ash Springs area potentially could lessen impacts to the habitat in the long term. The Ely Field Office currently is planning to initiate an education program, including signage at the site, to inform the users of the presence of sensitive species and their habitat in the long term. The motorcycle special recreation permit areas (REC-11) (**Map 2-14**) and motorcycle/truck race routes (REC-12 through REC-15) (**Map 2-15**) would not affect habitat for this species, since those activities would not occur adjacent to Ash Springs.

Determination

Effect on Critical Habitat. The BLM has determined that the Recreation Program would not disturb or destroy beyond negligible levels any critical habitat for the White River springfish.

Effect on the Species. The BLM has determined that the Recreation Program "may affect, not likely to adversely affect" White River springfish.

5.7.2 Wildlife Species

5.7.2.1 Southwestern Willow Flycatcher

The majority of habitat for the Southwestern willow flycatcher within the planning area occurs on lands that are not managed by the BLM (e.g., Pahranagat National Wildlife Refuge, Key Pittman Wildlife Management Area, and private lands). These areas would not be directly impacted by the BLM's management of recreational use, and motorized race events (i.e., motorcycle and truck) on the public lands. However, the Pahranagat Valley Special Recreation Management Area would occur in the immediate vicinity of riparian habitat potentially used by this species (REC-2) (see **Map 2-13**). Direct impacts to riparian vegetation in this area and in the Lower Meadow Valley Wash/Clover Creek area from recreation use could result in the incremental long-term disturbance of breeding and foraging habitat for this species and added effects from habitat fragmentation. Direct impacts also could result in the loss of eggs or young if vehicle use is permitted in riparian habitat during the breeding season. Indirect impacts from increased noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads and trails could further reduce habitat quality in the vicinity of recreation areas (REC-5).

Potential impacts from motorized competitive race events (i.e., motorcycle and truck) would continue to result in long-term habitat disturbance and fragmentation, including approximately one-quarter mile of trails that would occur within Southwestern willow flycatcher habitat (REC-12 and REC-15) in Lower Meadow Valley Wash where the race course crosses the riparian habitat (see **Maps 2-15** and **2-16**). Direct impacts also could result in the loss of eggs or young if vehicle use is permitted in riparian habitat during the breeding season. Indirect impacts would include increased noise and human presence during trail maintenance and race events. However, effects from increased human presence and noise would be minimal due to infrequent use of roads and trails for race events.

Determination

Effect on Critical Habitat. Critical habitat for the Southwestern willow flycatcher does not occur within the planning area. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Recreation Program "may affect, not likely to adversely affect" Southwestern willow flycatcher.

5.7.2.2 Desert Tortoise

Closing the three desert tortoise ACECs to all speed competitive events has eliminated such events from 80 percent of the designated critical desert tortoise habitat in the planning area (REC-17). No direct tortoise mortalities would be caused by speed competitive events. Since, historically, only one of these types of events has occurred annually within the planning area, the benefits from this closure are anticipated to be minimal.

Non-speed organized events would be authorized to pass through the desert tortoise ACECs on designated routes (22.2 miles within the ACECs), except during the tortoise's higher period of activity (March 15 through June 15, and August 15 through October 15) reducing impacts on desert tortoise and its habitat (REC-18 and REC-19) (see **Map 2-16**). The designation of routes would reduce the potential for course widening, additional soil compaction, and the creation of new courses. The non-speed nature of events and prohibition of events during the higher period of activity would minimize the potential for direct mortalities of tortoises. Impacts associated with spectators and pits would not occur, because these would not be allowed within the ACECs (REC-21).

Allowing speed and non-speed events within desert tortoise habitat outside of ACECs could result in direct and indirect impacts to the desert tortoise and its habitat (REC-11, REC-12, and REC-15) (see **Maps 2-15** and **2-16**). By requiring that all future events be limited to existing roads and trails (REC 13 and TM-5), the potential for further habitat destruction would be reduced. A potential would continue to exist for direct tortoise injury or mortalities during speed events. Based on past monitoring of these types of events in tortoise habitat, direct impacts to tortoise would be expected to be less than one tortoise every 30 years at current use levels, and less than one every 6 years based on the maximum projected levels. Other direct impacts from recreation activities also could result from increased collection opportunities, crushing of burrows, and disruption of behavior. Indirect impacts would result from increased noise and human

presence during trail maintenance and race events. However, effects from increased human presence and noise would be minimal due to infrequent use of roads and trails for race events (REC-11, REC-14, and REC-19). Soil compaction and creation of new road and trails by spectators might occur, causing the potential loss of very small amounts of habitat. To the extent possible, such activities would be prevented (REC-21). The roads used for these events would remain open to all other uses; the addition of these organized events would have little, if any, effect on the condition of the roads or surrounding areas. Historically there has been about one such event per year and it is expected that from one to five events would occur per year.

Non-speed off-highway vehicle organized and commercial events such as trail rides and commercial sightseeing only would be allowed when consistent with the recovery and delisting of the desert tortoise, creating little or no effect on the tortoise or its habitat (REC-18). Demand for these types of events historically has been less than one event per year.

Approximately 64.4 miles of off-highway vehicle roads and trails would cross desert tortoise habitat including 13.3 miles within the desert tortoise ACECs, 0.1 miles in critical habitat outside the ACECs, and 51.0 miles in non-critical habitat outside the ACECs (see **Map 2-16**). Potential short- and long-term impacts to the desert tortoise associated with recreational use of these roads and trails (REC-16) would be similar to those discussed above for race events and include the incremental reduction of habitat, increased habitat fragmentation, increased noise and human presence, dispersal of noxious weeds, dust effects which further reduce habitat quality, increased collection opportunities, crushing of burrows, injury/mortality from vehicles, and disruption of behavior. Potential impacts to the desert tortoise would be minimized through management actions.

Non-motorized recreation activities generally would neither benefit nor hinder recovery and delisting of the tortoise. However, it is possible that some localized areas of tortoise habitat could be impacted through increased soil compaction and erosion, trampled vegetation, and crushed or collapsed burrows.

Non-consumptive recreation activities, such as hiking, casual horseback riding, and nature photography, could increase (REC-5) and the proposed Pahranagat Special Recreation Management Area includes desert tortoise habitat near the town of Alamo (REC-2) (see **Map 2-13**). Although surface disturbances or impacts to desert tortoise could occur as a result of the increase in these types of recreational activities in desert tortoise habitat, according to the Desert Tortoise (Mojave Population) Recovery Plan, such activities are compatible with the objectives for desert tortoise recovery (U.S. Fish and Wildlife Service 1994a).

Determination

Effect on Critical Habitat. The BLM has determined that the Recreation Program would not disturb or destroy beyond negligible levels any critical habitat for desert tortoise, either inside or outside of the ACECs.

Effect on the Species. The BLM has determined that the Recreation Program "may affect, likely to adversely affect" desert tortoise, both inside and outside of the ACECs.

5.8 Livestock Grazing

5.8.1 Fish Species

5.8.1.1 Pahrump Poolfish

Livestock grazing would continue within the 17,322 acre Scotty Meadows allotment, which contains the refugium for the Pahrump poolfish at Shoshone Ponds (LG-1) (see **Map 3-1**). Season-of-use is from June 1 to September 30 with a total of 1,227 active animal unit months. Scotty Meadows allotment has not been evaluated for rangeland health standards. Current grazing management would continue until the allotment is evaluated (LG-5). The fenced area excluding livestock grazing around Shoshone Ponds would be expanded (SS-12). This would improve the long-term protection of the original pond and additional ponds where the species is located. However, grazing would continue on upland areas outside of the exclosure, but because of the larger area being protected around the ponds, livestock grazing should have negligible direct or indirect effect on this species and its habitat.

Determination

Effect on Critical Habitat. Critical habitat for Pahrump poolfish has not been designated. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Livestock Grazing Program "may affect, not likely to adversely affect" the Pahrump poolfish.

5.8.1.2 Big Spring Spinedace

Livestock grazing would continue within four allotments (Highland Peak, Black Hills, Condor Canyon, and N4/N5) which contain habitat for the Big Springs spinedace within Condor Canyon (LG-1) (see **Map 3-2** and **Table 5-3**). While direct impacts related to livestock grazing (mortality and loss of eggs from trampling in the stream) are expected to be minor to negligible, indirect impacts such as siltation, loss of shading riparian vegetation, and water quality degradation may occur.

Table 5-3
Livestock Grazing Allotments Containing Habitat for Big Spring Spinedace

Allotment Name	Public Acres	Miles of Stream Habitat	Season of Use	Active Animal Unit Months
Black Hills	3,610	1.6	3/1 to 2/28	156
Condor Canyon	44,035	1.4	3/1 to 1/24	676
Highland Peak	45,452	0.4	10/16 to 5/15	3,704
N4/N5	43,500	0.9	3/1 to 2/28	825

The N4/N5 allotment has been evaluated and is meeting or making progress towards achieving the rangeland health standards (LG-5). The other three allotments have not been evaluated (LG-5).

Upon the next evaluation of these allotments, consideration will be given to adoption of recommendations contained in the Condor Canyon Habitat Management Plan (Guerrero et al. 1989) which recommends that grazing within the canyon be limited to November 15 through March 15, with a utilization limit of 50 percent and bank trampling limit of 20 percent. Although some habitat disturbance within Condor Canyon could result from livestock grazing, the long-term effects would be minimized if the proposal for seasonal restrictions is adopted after allotment evaluation is complete. This would reduce impacts to the Big Spring spinedace and its habitat.

Determination

Effect on Critical Habitat. The BLM has determined that Livestock Grazing Program would not disturb or destroy beyond negligible levels any critical habitat for the Big Spring spinedace.

Effect on the Species. The BLM has determined that the Livestock Grazing Program "may affect, likely to adversely affect" Big Spring spinedace.

5.8.1.3 White River Springfish

Livestock grazing would continue within the 34,146 acre Pahranagat East allotment, which contains the critical habitat for this species (LG-1) (see **Map 4-7**). Season-of-use is from August 1 to May 31 with a total of 511 active animal unit months. This allotment has not been evaluated for rangeland health standards (LG-5). Livestock are fenced out of the Ash Springs area. Although adjacent upland areas are available for livestock grazing, potential sedimentation effects would not affect this species or their habitat due to topography and distance from the spring.

Determination

Effect on Critical Habitat. The BLM has determined that Livestock Grazing Program would not disturb or destroy beyond negligible levels any critical habitat for the White River springfish.

Effect on the Species. The BLM has determined that the Livestock Grazing Program would have "no effect" on the White River springfish.

5.8.2 Wildlife Species

5.8.2.1 Southwestern Willow Flycatcher

The majority of habitat for the Southwestern willow flycatcher within the planning area occurs on lands that are not managed by the BLM (e.g., Pahranagat National Wildlife Refuge, Key Pittman Wildlife Management Area, and private lands). These areas would not be directly impacted by the BLM's livestock grazing

program. However, the Lower Meadow Valley Wash area provides riparian habitat on public lands for this species (see **Map 3-3** and **Table 5-4**). Direct impacts to this species and its habitats from livestock grazing on BLM-administered lands would include localized vegetation trampling and removal of cover plants due to grazing or browsing. These impacts to riparian vegetation, which could result in the incremental long-term disturbance of breeding and foraging habitat for this species, will be minimized as individual allotments are evaluated and the associated permit terms and conditions are adjusted to ensure achievement of rangeland health standards. Direct short-term impacts also could result in the loss of eggs or young if grazing use is permitted in riparian habitat during the breeding season. Indirect impacts from increased surface disturbance and dispersal of noxious weeds could further reduce riparian habitat quality. Potential long-term impacts to this species and its habitat would be minimized through restrictions on season of grazing use and other terms and conditions on the grazing permit (LG-4 and SD-3).

Table 5-4
Livestock Grazing Allotments Containing Habitat for Southwestern Willow Flycatcher

Allotment Name	Public Acres of Affected Habitat	Season of Use	Active Animal Unit Months
Applewhite	120	3/1 to 2/28	562
Ash Flat	187	5/1 to 3/24	74
Breedlove	209	3/1 to 2/28	698
Caliente	1	3/1 to 2/28	40
Cottonwood	11	5/1 to 10/31	1,296
Henrie Complex	587	11/1 to 4/30	1,373
Meadow Valley	135	Cattle 11/1 to 4/30 Horses 3/1 to 2/28	56
Oak Springs	139	3/1 to 2/28	9,268
Peck	7	3/1 to 2/28	397
Pennsylvania	97	5/1 to 10/31	588
Rainbow	7	3/1 to 2/28	665
Rox-Tule	98	Closed[1]	0
Schlarman	105	11/1 to 4/30	240

[1] Allotment closed to grazing in association with designation of desert tortoise ACECs.

The Cottonwood, Henrie Complex, and Schlarman allotments have been evaluated and are meeting or making progress towards achieving the rangeland health standards (LG-4). The other nine allotments in **Table 5-4** will be evaluated to determine if they are meeting or making progress toward meeting the standards for rangeland health (LG-5).

Determination

Effect on Critical Habitat. Critical habitat for the Southwestern willow flycatcher does not occur within the planning area. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Livestock Grazing Program "may affect, not likely to adversely affect" Southwestern willow flycatcher.

5.8.2.2 Desert Tortoise

Approximately 203,670 acres within the Kane Springs, Mormon Mesa, and Beaver Dam Slope ACECs are unavailable for livestock grazing (LG-2) (see **Map 3-5**). These ACECs benefit the desert tortoise over the long term by eliminating competition with domestic livestock for forage in these areas, thereby providing a greater amount of quality forage for the desert tortoise. As native species gradually increase within the vegetation communities, tortoises would benefit from better quality forage and improved habitat conditions. The above-ground biomass of perennial grasses and forbs would increase, providing improved thermal and protective cover for hatchlings and juvenile tortoises. With improved cover, juvenile tortoises would be less susceptible to predation. Tortoises and their burrows also would be protected from trampling by livestock

Livestock grazing would continue in 19 allotments within desert tortoise habitat outside of the ACECs (LG-1 and LG-3) (see **Map 3-5** and **Table 5-5**), including approximately 49,340 acres of critical habitat.

Table 5-5
Allotments in Desert Tortoise Habitat Available for Livestock Grazing

Allotment Name	Total Allotment Public Acres[1]	Acres of Critical Habitat	Acres of Non-critical Habitat	Season of Use	Active Animal Unit Months
Boulder Spring	13,537	0	9,736	10/1 to 3/31	416
Breedlove	89,500	41	89,074	3/1 to 2/28	698
Buckhorn	82,968	0	2,544	3/1 to 2/28	3,370
Delamar	203,000	8,451	30,494	3/1 to 2/28	5,558
Garden Springs	38,823	0	22,212	10/1 to 5/31	2,809
Gourd Spring	57,700	3,034	50,908	10/1 to 5/31	3,458
Grapevine	22,000	1,299	18,697	3/1 to 2/28	349
Henrie Complex	165,060	0	87,225	11/1 to 4/30	1,380
Lime Mountain	67,144	0	2,786	10/1 to 5/15	6,754
Lower Lake East	41,800	2,504	27,353	3/1 to 2/28	640
Lower Lake West	57,000	0	5,553	3/1 to 2/28	1,247
Lower Riggs	19,569	0	125	5/1 to 3/24	1,408
Mormon Peak	64,700	67	12,892	6/1 to 3/31	600
Pahranagat East	34,146	0	11,401	8/1 to 5/31	511
Pahranagat West	70,138	0	12,005	10/1 to 5/31	2,144
Snow Springs	44,042	6,499	37,507	10/1 to 5/15	3,567
Summit Spring	18,035	2,738	14,257	10/1 to 5/31	715
Terry[2]	30,163	22,030	8,492	11/1 to 5/31	1,511
White Rock	32,916	0	24,725	10/1 to 5/31	2,880

[1] Not including allotment acreage unavailable for grazing within desert tortoise ACECs.
[2] Allotment administered by St. George Field Office.

The Gourd Spring, Henrie Complex, Lower Lake West, and White Rock allotments have been evaluated and are meeting or making progress towards achieving the rangeland health standards (LG-4). The other 15 allotments will be evaluated to determine if they are meeting or making progress toward meeting the standards for rangeland health (LG-5).

Allotments or portions of allotments outside of ACECs would be managed according to seasonal utilization limits of 40 percent of annual growth on key perennial grasses and shrubs (March 1 to October 31), 50 percent of annual growth on key forbs, perennial grasses, and 45 percent of annual growth on key shrubs and perennial forbs (October 15 to March 15) (LG-8). This limitation should maintain plant communities at their current seral stage. Direct impacts to the desert tortoise from livestock grazing would include localized vegetation trampling, removal of cover plants due to grazing or browsing, crushing of burrows, injury/mortality from livestock or livestock management activities, and added effects from habitat fragmentation. Indirect impacts from increased noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads and trails could further reduce habitat quality. Possible long-term negative impacts to tortoise, such as trampling and competition for forage, could continue on approximately 523,900 acres of desert tortoise habitat outside the ACECs. Potential impacts to desert tortoise would be minimized through implementation of management actions and BLM best management practices.

Determination

Effect on Critical Habitat. The BLM has determined that the Livestock Grazing Program would not disturb or destroy beyond negligible levels any critical habitat within the three desert tortoise ACECs and that grazing may disturb up to 49,340 acres of critical habitat for desert tortoise outside of the ACECs.

Effect on the Species. The BLM has determined that the Livestock Grazing Program would have "no effect" on desert tortoise within the ACECs, but "may affect, likely to adversely affect" desert tortoise outside of the ACECs.

5.9 Geology and Mineral Extraction

The following summarizes the fluid mineral development potential in the planning area based on reasonable foreseeable development scenarios for oil and gas and geothermal energy and was developed in conformance with BLM policy. This analysis is based largely on the reasonable foreseeable development scenarios as presented in detail in the mineral report prepared for the Proposed RMP/Final EIS (ENSR 2004a). Various additional assumptions have been incorporated based on changes in the mineral markets over the past couple of years. The mineral report is available at the Ely BLM Field Office. The reasonable foreseeable development scenarios were based on past exploration activities and reasonable estimates of future exploration and development activity given the potential occurrence of the resources.

Reasonable Foreseeable Development Scenario – Oil and Gas. The following is a list of major assumptions upon which the reasonable foreseeable development scenario is based:

- There would be no major regulatory changes in federal or state statutes, regulations, policy, and guidance that govern the exploration and development of fluid minerals, including lease royalty provisions and lease rental fees.

- Oil prices would remain sufficiently high to stimulate continued exploration and drilling. Recent historic highs in the price of oil may stimulate exploration activity above levels of the recent past. It is possible that higher prices may persist for the next few years. The reasonable foreseeable development scenario (ENSR 2004b) is a planning tool that was developed to accommodate the maximum development that could reasonably be expected to occur. However, actual activity levels, as with prices, cannot be predicted with certainty.

- The amount of federal oil and gas acreage under lease in the decision area would range between 1.0 and 1.5 million acres. As of March 2004, there were 473 federal oil and gas leases covering approximately 1.2 million acres in the decision area. In the next year or two, leases may increase up to as much as 3 million acres. This would be due to the unprecedented spike in oil prices, recent discoveries in similar geologic plays in other parts of the Great Basin, and the availability of additional lands for leasing which have not been available for several years due to the lack of appropriate NEPA analysis.

- Based on 2000 to 2004 numbers, additional federal lease sales are projected to average 220,000 acres per year for the next several years. Due to the factors outlined above, there could average as much as 400,000 acres per year within the next one to two years.

- It cannot be predicted at this time how much acreage eventually would be held by production, which is entirely dependent on the discovery of commercial oil and gas fields.

- Past oil and gas exploration has concentrated on oil plays within valley floors. New regional discoveries and a recent oil and gas resource assessment, however, indicate that a large amount of exploration could take place in mountains (U.S. Geological Survey 2005).
- Seismic surveys are a critical part of oil and gas exploration. If new discoveries are made or new plays are developed, seismic activity would increase. It is assumed that approximately 30 miles of seismic survey would be conducted per year, based on recent experience.

- New field discoveries would be similar in size and surface disturbance to the Trap Springs and Kate Springs oil fields within Railroad Valley.

- The reasonably foreseeable development scenario is made without respect to any existing or proposed leasing stipulations and conditions of approval in accordance with BLM guidance.

- Actual locations of potential exploration wells and field development are unknown. The impacts associated with these activities are likely to occur anywhere within the planning area that is of high or moderate, or even low, potential for oil and gas resources.

As shown on **Table 5-6**, a total of 448 wells would be drilled resulting in a total short-term disturbance of approximately 7,400 acres and a long-term disturbance of approximately 1,100 acres. Short-term disturbance as defined for the reasonably foreseeable development scenario includes locations for wells in the plugged and abandoned category that would be reclaimed immediately after drilling or construction.

Table 5-6
Summary of Surface Disturbance Resulting from Anticipated Oil and Gas Well Drilling Activity

Facility Type	Number of Facilities	Short-term Disturbance Factor[1]	Long-term Disturbance Factor[1]	Short-term Disturbance[2] (acres)	Long-term Disturbance[2] (acres)
Seismic Survey	30 miles/yr	<2 acres/mile	0	**<1,000**	**0**
Exploratory Well Disturbance					
Exploratory well pads	200 wells	3.7 acres/well	1.5 acres/well	**740**	30
Exploratory well access roads	1,000 miles	4.8 acres/mile	2.9 acres/mile	**4,800**	290
		Total Disturbance for Exploration Drilling		**5,600**	**320**
Small Field Development					
Active well pads[3]	40 wells	3.7 acres/well	1.5 acres/well	**148**	60
Abandoned well pads	48 wells	3.7 acres/well	0	**178**	0
Central processing facilities	4 facilities	5 acres/facility	5 acres/facility	**20**	20
Access roads	24 miles	6.3 acres/mile	4.4 acres/mile	**151**	106
Service roads	32 miles	4.8 acres/mile	2.9 acres/mile	**154**	93
Pipelines	8 miles	1.8 acres/mile	0	**14**	0
Gravel pits	4 pits	20 acres/pit	20 acres/pit	**80**	80
		Total Disturbance, Development of Four Small Fields		**745**	**359**
Large Field Development					
Active well pads	100	3.7 acres/well	1.5 acres/well	**370**	150
Abandoned well pads	60	3.7 acres/well	0	**222**	0
Central processing facilities	4 facilities	5 acres/facility	5 acres/facility	**20**	20
Access roads	12 miles	6.3 acres/mile	4.4 acres/mile	**76**	53
Service roads	43 miles	4.8 acres/mile	2.9 acres/mile	**206**	125
Pipelines	10 miles	1.8 acres/mile	0 acre/mile	**18**	0
Gravel pits	2 pits	42 acres/pit	42 acres/pit	**84**	84
		Total Disturbance, Development of Two Large Fields		**996**	**432**
Associated Facilities					
Refinery	1 facility	20 acres/site	20 acres/site	**20**	20
Refinery pipeline	25 miles	1.8 acres/mile	0	**45**	0
		Total Disturbance for Associated Facilities		**65**	**20**
Total Disturbance				**8,406**	**1,131**

[1] BLM 1992 and 1999.
[2] Short term applies to effects occurring in the immediate future and persisting for approximately 5 to 10 years or less; long term applies to effects lasting or occurring beyond 10 years.
[3] Active wells include producers, injectors, and disposal wells.

Reasonable Foreseeable Development Scenario – Geothermal. The following is a list of major assumptions upon which the reasonable foreseeable development scenario for geothermal resources is based:

- There would be no major regulatory changes in federal or state statutes, regulations, policy, and guidance that govern the exploration and development of fluid minerals, including lease royalty provisions and lease rental fees.

- Geothermal development potential is moderate in the valley areas and low in the mountain areas. The moderate potential areas cover about 49 percent of the planning area. **Table 5-7** summarizes the disturbances resulting from geothermal development, which would total about 250 acres.

Table 5-7
Summary of Surface Disturbance from Anticipated Geothermal Project Development

Types of Facilities	Number of Facilities	Short-term Disturbance Factor	Long-term Disturbance Factor	Short-term Disturbance[1] (acres)	Long-term Disturbance[1] (acres)
Geothermal gradient well pads	30 wells	0.07 acre/well	0	2	0
Gradient well access roads	5 miles	4.8 acres/mile	0	24	0
Exploratory well	1 well	3.7 acres/well	1.5	4	1
Exploratory well roads	5 miles	4.8 acres/mile	2.9 acres/mile	24	14
Development well pads	2 wells	3.7 acres/well	1.5 acres/well	7	3
Development well roads	6 miles	6.3 acres/mile	4.4 acres/mile	38	26
Power plant	1 plant plus ancillary facilities	40 acres/plant and facilities	40 acres/plant and facilities	40	40
Pipelines	8 miles	1.8 acres/miles	0	15	0
Electrical transmission lines	50 miles	--	1.0 acre/mile	50	50
Total				**204**	**134**

[1] Short term applies to effects occurring in the immediate future and persisting for approximately 5 to 10 years or less; long term applies to effects lasting or occurring beyond 10 years.

- As of March 2004, the geothermal leasehold in the planning area is approximately 1,000 acres in a single lease. Geothermal leasing in the future is not expected to greatly increase in the short term, but potential exists for a variety of low-temperature geothermal uses.

- Very limited geothermal exploration and development are expected in the short term.

- If high-temperature geothermal resources are discovered, the reasonably foreseeable development scenario assumes the maximum development would consist of a power plant with a 10- to 15-megawatt generating capacity and associated greenhouse or dehydration facilities.

- Geothermal exploration could take up to 5 years, development could take 2 to 10 years, and production could last for up to 30 years.

Reasonable Foreseeable Development Scenario – Solid Leasable Minerals. There would be no major regulatory changes in federal or state statutes, regulations, policy, and guidance that govern the exploration and development of solid leasable minerals. Although there is a small probability that such minerals are present in commercially-exploitable deposits, the Ely Field Office would provide a program for the development of such commodities if solid leasable minerals are found to be commercially developable.

Locatable Minerals. The following summarizes the locatable mineral development potential in the planning area based on reasonable foreseeable development scenarios for locatable minerals and was developed in conformance with applicable BLM policy. This analysis is presented in detail in the mineral potential report prepared for the Proposed RMP/Final EIS (ENSR 2004b). This document is available at the Ely BLM Field Office. It is impossible to predict with certainty how resource development would occur in the future. The interaction of prices, markets, technology, and environmental concerns all play a role. The reasonable foreseeable development scenarios were developed based on past exploration activities and reasonable estimates of future exploration and development activity given the potential occurrence of the resources.

Reasonable Foreseeable Development Scenario – Locatable Minerals. The following is a list of major assumptions upon which the reasonable foreseeable development scenario for locatable mineral resources is based:

- There would be no major regulatory changes in federal or state statutes, regulations, policy, or guidance that govern the exploration and development of locatable minerals.

- Recent historic highs in the price of metallic minerals may stimulate exploration activity above levels of the recent past. It is possible that higher prices may persist for the next few years. The reasonable foreseeable development scenario (ENSR 2004b) is a planning tool that was developed to accommodate the maximum development that could reasonably be expected to occur. However, actual activity levels, as with prices, cannot be predicted with certainty.

- Commodity prices in the future would provide sufficient economic incentive to support the production of locatable mineral commodities.

- Surface mining is expected to remain the primary method of locatable mineral resource extraction in the planning area. Underground methods would be used to mine deeper deposits.

- New ore bodies would continue to be developed to replace reserves as they are mined out. This would be accomplished through both the discovery and development of new mines and expansions of existing mines.

- It is anticipated that one large open-pit mine would be developed or undergo a major expansion during the next 20 years. A large open-pit mine often consists of either one large pit or a number of smaller pits in close proximity to one another. It is assumed that the mine would encompass about 3,000 acres including pits, waste rock piles, processing facilities, roads, exploration drill pads, and operations facilities. These disturbance areas are expected to be long-term effects.

- It is anticipated that three medium-sized open-pit mines would be developed or undergo moderate expansion during the next 20 years. The mines would consist of pits, waste rock piles, processing facilities, roads, exploration drill pads, and operations facilities. Each medium-sized open-pit mine would disturb about 700 acres resulting in a total disturbance of 2,100 acres that would be of long-term duration.

- It is expected that as many as six small mines would be developed or undergo minor expansion during the next 20 years. The mines each would consist of small pits, waste rock piles, processing facilities, roads, exploration drill pads, and operations facilities. Each small mine would cover an area as large as 400 acres resulting in a total disturbance of as much as 2,400 acres. These disturbances could be either short-or long-term in their duration, depending on the specific operation. In this analysis, they are assumed to be long-term in nature.

- Total disturbance during the next 20 years from locatable mining development associated with the above operations would be approximately 7,500 acres or 0.07 percent of the decision area.

- Reclamation of post-mining disturbance areas would be required by both federal and state regulations.

Mineral Materials. Mineral materials development potential in the decision area is based on reasonable foreseeable development scenarios developed in conformance with applicable BLM policy. This analysis is presented in detail in the mineral potential report prepared fro the RMP/EIS (ENSR 2004b). This document is available at the Ely Field Office. It is impossible to predict with certainty how resource development would occur in the future. The interaction of prices, markets, technology, and environmental concerns all play a role. The reasonable foreseeable development scenarios were developed based on known occurrences of mineral materials and reasonable estimates of future demand and development.

Reasonable Foreseeable Development Scenario – Mineral Materials. The following is a list of major assumptions upon which the reasonable foreseeable development scenario for mineral materials is based:

- There would be no major regulatory changes in federal or state statutes, regulations, policy, or guidance that govern the exploration and development of mineral materials.

- The disposal of mineral materials, such as sand, gravel, and decorative rock, which depend on market conditions and demand, would increase because of growth in the decision area and Clark County. In spite of the long haulage distances, mineral materials from the decision area would be competitive with sources closer to Las Vegas. In the near term, the most likely areas to have development of mineral material deposits would be in southern Lincoln County and the larger rural communities.

- The Nevada Department of Transportation would continue to mine gravel resources for road maintenance and construction. The exact location of the pits used by the Nevada Department of Transportation would be dictated by specific construction and maintenance needs.

- Additional Community Pits would be developed for the needs of expanding local communities.

- Current development of mineral materials is estimated at approximately 2,200 acres in approximately 400 existing pits. Projected additional development during the next 20 years is estimated at 1,000 acres.

The reasonable foreseeable development scenarios for individual categories of minerals are summarized in Table 5-8.

Table 5-8
Summary of Anticipated Disturbance from Mineral Extraction

Type of Mineral Development	Approximate Disturbance Acreage[1]	
	Short-term	Long-term
Fluid Leasable Minerals	8,400	1,100
Solid Leasable Minerals	0	0
Geothermal Development	200	100
Locatable Minerals	7,500	7,500
Mineral Materials	3,200	3,200
Totals Disturbance Acreage	**19,300**	**11,900**

[1] Rounded to hundreds.

5.9.1 Fish Species

5.9.1.1 Pahrump Poolfish

No historic mining or oil and gas development overlap with the area surrounding Shoshone Ponds. Mining would not affect habitat for Pahrump poolfish because the ACEC would be closed for development of solid leasable, locatable minerals, and mineral materials (MIN-12, MIN-15, and MIN-20). Oil and gas development is not expected to affect these species due to the area being classified as "no surface occupancy" (MIN-6), although indirect impacts may occur from activities outside the ACEC.

Determination

Effect on Critical Habitat. Critical habitat for the Pahrump poolfish has not been designated. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Geology and Mineral Extraction Program would have "no effect" on Pahrump poolfish.

5.9.1.2 Big Spring Spinedace

Past impacts from mineral extraction resulted from three mining claims which exist in the immediate vicinity of Condor Canyon and overlap with Big Spring spinedace designated critical habitat (U.S. Fish and Wildlife Service 1993). Impacts from these mining activities included loss or alteration of habitat, sedimentation, and removal of riparian vegetation. These claims were closed in 1986. One active claim exists in Section 23. However, future mining disturbance would not occur within the Condor Canyon ACEC because it would be closed for development of solid leasable, locatable minerals, and mineral materials (MIN-12, MIN-15, and MIN-20). It would be managed as "no surface occupancy" for fluid leasable minerals (MIN-6). No active oil

and gas leases overlap with occupied or designated critical habitat for Big Spring spinedace; therefore, oil and gas development would not directly affect this species. Since Condor Canyon is located within an area of high potential oil and gas development, this drainage could be affected by short-term construction and long-term operation activities if a lease is approved. Future development activities would have to be done with conditions to protect Big Spring spinedace and its designated critical habitat in the long term (MIN-2). Best management practices involving interagency inventory and monitoring and recovery actions would be implemented to minimize impacts to sensitive species in Condor Canyon.

Determination

Effect on Critical Habitat. The BLM has determined that Geology and Mineral Extraction Program would not disturb or destroy beyond negligible levels any critical habitat for the Big Spring spinedace.

Effect on the Species. The BLM has determined that the Geology and Mineral Extraction Program "may affect, not likely to adversely affect" Big Spring spinedace.

5.9.1.3 White River Springfish

The 80-acre site surrounding Ash Springs is open to fluid leasable mineral development but subject to "no surface occupancy" constraints (MIN-6). The surrounding area would be closed to development of solid leasable, locatable minerals, and mineral materials (MIN-12, MIN-15, and MIN-20). In general, oil and gas and mineral development can affect aquatic habitat by altering riparian vegetation, reducing water levels or flow by water consumption, disruption of the supply aquifer, and degrading water quality from surface disturbance, runoff, and contaminant leaks or spills. However, the 80-acre withdrawal area should be adequate to ensure that development would not affect habitat for White River springfish.

Determination

Effect on Critical Habitat. The BLM has determined that Geology and Mineral Extraction Program would not disturb or destroy beyond negligible levels any critical habitat for the White River springfish.

Effect on the Species. The BLM has determined that the Geology and Mineral Extraction Program would have "no effect" on White River springfish.

5.9.2 Wildlife Species

5.9.2.1 Southwestern Willow Flycatcher

The majority of Southwestern willow flycatcher habitat within the planning area occurs on lands that are not managed by the BLM (e.g., Pahranagat National Wildlife Refuge, Key Pittman Wildlife Management Area, and private lands) and would not be directly impacted from geology and mineral development activities. Potential impacts from geology and mineral extraction projects (e.g., oil and gas, coal, geothermal resources, and precious and base metal ores) to the habitat for this species on BLM-administered lands

(e.g., Lower Meadow Valley Wash) are expected to be minimal and limited to continued operation of a few existing mineral material pits. Indirect impacts may result from noise and human presence. Beneficial effects from the "no surface occupancy" constraint in the 25,000-acre Lower Meadow Valley Wash ACEC (MIN-6) and the closure of this area to development of solid leasable and locatable minerals (MIN-12 and MIN-15) would include a reduction in erosion, habitat degradation, and noxious and invasive species; and increased habitat quality, improved nesting and foraging habitat, and potential increases in species distribution (see **Maps 2-19** and **2-23**).

Determination

Effect on Critical Habitat. Critical habitat for the Southwestern willow flycatcher does not occur within the planning area. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Geology and Mineral Extraction Program would have "no effect" on Southwestern willow flycatcher.

5.9.2.2 Desert Tortoise

Potential impacts to the desert tortoise from mineral extraction projects could include the incremental reduction of habitat and increased habitat fragmentation. Indirect impacts from noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads could further reduce habitat quality in the vicinity of development areas. Impacts from construction, operation, and maintenance activities also could result from increased collection opportunities, injury/mortality from vehicles or equipment, and disruption of behavior. Potential impacts to this species and its habitat, including potential predation from predatory birds (e.g., raptors and ravens) would be minimized through additional Section 7 consultation for specific mineral development projects and implementation of management actions (MIN-1 through MIN-3, MIN-9, MIN-13, MIN-16, and MIN-21).

Beneficial impacts from the closure of approximately 297,100 acres (40 percent) of desert tortoise habitat to development of fluid leasable minerals; closure of approximately 400,000 acres (55 percent) of desert tortoise habitat to development of solid leasable, locatable, and mineral materials (MIN-7, MIN-9, MIN-12, MIN-13, MIN-15, MIN-16, MIN-20, and MIN-21), (see **Maps 2-17** and **2-21**), and the management of mineral material development sites and disposal areas in the desert tortoise ACECs (see **Map 2-25**) would result in decreased habitat loss and fragmentation, and the elimination of potential collection opportunities, crushing of burrows, injury/mortality from vehicles, and disruption of behavior (see **Table 5-9**).

Following designation of the Kane Springs ACEC, approximately 57,190 acres of desert tortoise habitat within the ACEC were withdrawn from mineral entry and closed to mineral entry, to fluid and non-energy mineral leasing, to the operation of the General Mining Law, subject to valid existing rights, and to mineral material disposal (MIN-9, MIN-13, MIN-16, and MIN-21). The desert tortoise and its habitat benefit from these closures. The potential for direct mortality, burrow crushing, and habitat loss due to mineral development has been eliminated within this area.

Table 5-9
Management of Mineral Development within Desert Tortoise Habitat

Type of Habitat	Acreage	Type of Mineral Management		
		Fluid Leasable	Locatable Minerals	Mineral Materials
Kane Springs ACEC	57,190	Closed	Closed	Closed
Beaver Dam Slope ACEC	36,800	No surface occupancy[1]	Closed[2]	Closed[2]
Mormon Mesa ACEC	108,000	No surface occupancy[1]	Closed[2]	Closed[2]
Critical Habitat Outside ACECs	53,780[3]	Open[4]	Open	Open
Non-critical Habitat Outside ACECs	470,800	Open[4]	Open	Open
Total Acreage[5]	**726,600**			

[1] No surface occupancy with exception (MIN-9).
[2] Closed with exceptions (MIN-16 and MIN-21).
[3] Critical habitat acreage may differ from actual habitat mapped for the same area due to critical habitat designation following legal boundaries (i.e., section lines) while actual habitat boundary primarily is based on topographic elevation.
[4] Open, subject to surface use and/or timing restrictions (MIN-3).
[5] Total acreage contains minor areas of non-habitat within ACECs.

Based on proportional distribution of the reasonably foreseeable development scenario throughout the planning area, the estimated short-term disturbance in critical habitat outside ACECs could be up to 75 acres, and the long-term critical habitat disturbance could be up to 44 acres, mostly due to fluid leasable minerals.

The Ely Field Office has provided a log of activities since 2000 for desert tortoise habitat that shows that less than 10 acres was disturbed in the past 7 years from all mineral related activities. This disturbance was associated with mineral material removal, a single mining notice, and a seismic permit; no acres were disturbed due to fluid minerals activities even though over 165,000 acres were leased for fluid minerals development during the same time period.

Fluid Leasable Minerals. Fluid mineral exploration and development could continue throughout the Mormon Mesa and Beaver Dam Slope ACECs. Existing oil and gas leases cover approximately 34,580 acres within the Beaver Dam Slope ACEC and 9,625 acres within the Mormon Mesa ACEC. New lease areas would be managed as "no surface occupancy" with exceptions granted upon completion of Section 7 consultation with the U.S. Fish and Wildlife Service (MIN-9). Long-term impacts that could occur from these activities include loss and fragmentation of habitat, direct mortality of tortoises, and increased public access to habitat. By attaching the lease stipulations and conditions as outlined in MIN-3 and SS-36 and additional mitigation measures developed though Section 7 consultation, the impacts to desert tortoise habitat would be reduced to the extent possible.

No habitat disturbance from seismic activities would occur within ACECs, since these activities would be restricted to existing roads and trails (MIN-1). One wildcat well per year would disturb up to 5 acres. Should

oil or gas be found, one oil and gas field could occur during the life of the Ely RMP, disturbing up to 500 acres.

Outside ACECs, existing leases cover approximately 28,740 acres in desert tortoise critical habitat and 43,422 acres of non-critical habitat. Habitat disturbance associated with fluid mineral activities outside the ACECs would take place in three phases: exploration, well drilling, and oil field production (MIN-2 and MIN-3). It is estimated that up to 30 miles per year of seismic lines could occur throughout the planning area with a small portion occurring in desert tortoise habitat outside of ACECs. Mitigation measures outlined in SS-36, along with others developed through Section 7 consultation for specific mineral development proposals, would reduce the impacts to tortoise habitat and reduce the potential for take.

The Proposed Plan contains enhanced protection for desert tortoise critical habitat from the 2000 Caliente Management Framework Plan amendment and the Ely Draft RMP and EIS completed in 2005. Each plan of development for potential fluid mineral development will be subject to Section 7 consultation as a condition of the lease. This consultation will prevent individual or cumulative actions related to fluid mineral development from creating a long-term conversion of the habitat to a vegetation community that is not favorable for desert tortoises. In addition, it will prevent significant disturbances to desert tortoise critical habitat.

Solid Leasable Minerals. All three desert tortoise ACECs would be closed to solid mineral leasing (MIN-13). Some areas within non-critical desert tortoise habitat outside of the ACECs would remain open to leasing of solid minerals (MIN-10). By applying lease stipulations and conditions as outlined in SS-36 and mitigation measures developed through Section 7 consultation, short- and long-term impacts to the desert tortoise and its habitat could be reduced to the extent possible. All disturbed areas would be reclaimed to predisturbance conditions as outlined in the Desert Tortoise Recovery Plan (SS-24).

Locatable Minerals. Exploration and mineral developments would continue throughout the proposed Mormon Mesa and Beaver Dam Slope ACECs on valid existing claims (MIN-16). Negative effects from mineral exploration and development could include direct mortality during mining activities, harassment, incidental take, and the loss and degradation of habitat. By requiring validity examinations of existing claims, plans of operation, NEPA review, and Section 7 consultation for all mineral activities within Mormon Mesa and Beaver Dam Slope ACECs, the potential for these impacts would be mitigated to the extent possible. It has been determined that protection of the desert tortoise and habitat for recovery of the species cannot be accomplished only through mitigation measures in the Kane Springs ACEC as in the Mormon Mesa and Beaver Dam Slope ACECs. This is because the habitat in the Kane Springs ACEC is of higher quality and the population densities are higher than in the other ACECs. Due to these two aspects of the Kane Springs ACEC, it would be very difficult to design a plan of operation that would sufficiently mitigate the impacts to the tortoise and its habitat and still provide for recovery of the desert tortoise. Closure of the Kane Springs ACEC would reduce the potential for further habitat fragmentation in the Northeastern Mojave Recovery Unit, the reserve design of which is already compromised because of the large edge effect (ratio of edge to interior area).

It is anticipated that exploration would continue at a rate of from 8 to 10 activities per year, for all types of locatable minerals within the entire planning area. The operations would consist of small exploration projects that would disturb an estimated 5 acres per project.

Less than 10 acres of authorized mining plans and notices exist within the Mormon Mesa and Beaver Dam Slope ACECs. Acreage of actual claims is not readily determinable, but existing claims are present in both ACECs. Potential development of these claims could result in disturbance of up to several hundred acres; however the likelihood of such development is limited by the procedural constraints and mitigation requirements within the ACECs. Based on a proportional distribution of the locatable minerals component of the reasonably foreseeable development scenario (7500 acres) throughout the Ely planning area, this estimated disturbance would include approximately 70 acres within the Mormon Mesa ACEC and approximately 24 acres within the Beaver Dam Slope ACEC.

Outside ACECs, the impacts described above for locatable minerals could occur within desert tortoise habitat during exploration under notices for disturbances less than 5 acres (MIN-16). Mitigation would be imposed only through plans of operation when the exploration and development exceeded 5 acres. Plans and notices would prevent undue and unnecessary degradation of desert tortoise habitat.

Based on a proportional distribution of the locatable minerals component of the reasonably foreseeable development scenario throughout the Ely planning area, this estimated disturbance would include approximately 32 acres within critical habitat outside ACECs. This disturbance is included within the 75 acres of short-term and 44 acres of long-term disturbance referenced in the introduction to this section.

Mineral Materials. Impacts associated with mineral material disposal include habitat loss, degradation, fragmentation, and the potential for incidental take of tortoise. By closing the ACECs to mineral material disposal (with the exception of 1-mile-wide road corridors for free use and Federal Highway Act material rights-of-way), these impacts would be reduced (MIN-21).

Impacts associated with mineral material disposal, including habitat loss, degradation, fragmentation, and the potential taking of a tortoise would be reduced. It is anticipated that the Nevada Department of Transportation would continue to hold their existing mineral material rights-of-way (MIN-21 and LR-44). The Lincoln County Road Department also may have the need for additional free use permits located in the designated corridor in the ACECs (MIN-21 and LR-44). However, material sites will be restricted to not less than 10-mile separations (MIN-21). These would continue to be needed for highway and road maintenance. Mitigation measures outlined in the Proposed RMP, and others developed through Section 7 consultation, would reduce the impacts to tortoise habitat and the potential for incidental take. These operations would be required to have a "no jeopardy" opinion decision from the U.S. Fish and Wildlife Service.

The majority of the required mineral material pits would be located along Highway 93; the Nevada Department of Transportation would continue to hold 14 material site rights-of-way (4 within the ACECs and 10 in desert tortoise habitat outside the ACECs), with the possibility of 3 more being developed (1 within and 2 outside the ACECs). The Lincoln County Road Department also may have the need for three pits along the Kane Springs and Carp-Elgin roads.

Outside ACECs, the sale of mineral materials to the public would be expected to increase substantially in the future, as population growth continues in this portion of the planning area (MIN-18 and MIN-19). It is estimated that one new pit would be established every 2 to 5 years to meet public demand, with each pit disturbing from 20 to 80 acres within desert tortoise habitat over the life of the plan. Between free use permits and Nevada Department of Transportation rights-of-way there is an expected additional long-term disturbance of approximately 500 acres of desert tortoise habitat during the life of the plan. It is anticipated that no more than 120 acres of additional habitat loss would occur from these pits within the proposed ACECs, primarily within critical habitat, and up to approximately 380 acres in desert tortoise habitat outside the ACECs, primarily in non-critical habitat.

Mitigation measures, outlined in SS-37, and those developed though Section 7 consultation related to new materials sites would reduce the short- and long-term impacts to tortoise habitat and the potential for incidental take.

Determination

Effect on Critical Habitat. The estimated effects on desert tortoise critical habitat include potential short-term and/or long-term disturbance on up to approximately 70 acres of existing locatable mineral claims within the Mormon Mesa and Beaver Dam Slope ACECs; limited probability of surface disturbance from fluid mineral development within these two ACECs due to no surface occupancy stipulations; short-term disturbance of up to 75 acres of critical habitat outside the ACECs; and long-term habitat destruction of up to 44 acres of critical habitat outside the ACECs.

Effect on the Species. The BLM has determined that the Geology and Mineral Extraction Program "may affect, likely to adversely affect" desert tortoise, both inside and outside of the ACECs.

5.10 Fire Management

Fuels Management

In general, fuels management would result in a more widespread treatment (prescribed fire, wildland fire use, mechanical thinning, and herbicide application) in upland areas to prevent heavy fuel accumulation in comparison to current management (FM-3 and FM-4) and achieve vegetation goals. This management approach would result in a reduced risk of catastrophic fires in the short and long term compared to current management.

Fire Suppression

Management actions for fire suppression would be initiated on wildland fires (FM-3). Activities associated with fire suppression could include the removal of vegetation with hand tools, burning out, bulldozers, and other heavy equipment; water removal by engines, portable pumps, or helicopter; and water and fire retardant drops from helicopters and air tankers. In general, these types of activities would be avoided in the area except during suppression. Application of best management practices (Appendix A, Section 1,

subsections 1.3 and 1.7) would prevent these fire suppression activities from affecting listed aquatic species.

Emergency Stabilization and Rehabilitation

Following fire, the burned areas would be stabilized and rehabilitated through appropriate treatment actions that could include seedbed preparation (if necessary), seeding, and erosion control measures (e.g., water bars, contour furrows, and mulching).

5.10.1 Fish Species

5.10.1.1 Pahrump Poolfish, Big Spring Spinedace, and White River Springfish

Direct impacts of fire suppression actions could involve reduction in available habitat if water is withdrawn from Shoshone Ponds, Condor Canyon, or Ash Springs. This potential impact would be limited by application of best management practices such as 1.3.8 and 1.7.7 (see Appendix A, Section 1). Indirect effects could include water quality degradation from fire retardant and increased sedimentation in runoff from nearby burned areas. This temporary increase in sedimentation and contaminants could reduce habitat quality for fish in the short term but would be limited by application of best management practices included in Appendix A, Section 1, subsections 1.3 and 1.7.

In the short term, there would be a loss of understory and woody debris in drainages, which could result in increased erosion and sedimentation to streams and springs.

The effect of fuels management on aquatic habitat would be reduced erosion input to perennial drainages due to increased soil stability on a long-term basis. Restoration of vegetation resilience and return to historical fire regimes would reduce impacts to aquatic habitat when fires occur.

Application of emergency stabilization and rehabilitation measures would reduce the potential impacts of wildland fires to aquatic habitat. On a long-term basis, the disturbed area would be reclaimed and sedimentation input to these waterbodies would be minimized or eliminated.

Determination

Effect on Critical Habitat. The BLM has determined that the Fire Management Program would not disturb or destroy beyond negligible levels any critical habitat for Big Spring spinedace and White River springfish. Critical habitat for the Pahrump poolfish has not been designated. Therefore, an effects determination for critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Fire Management Program "may affect, not likely to adversely affect" Pahrump poolfish, Big Spring spinedace, and White River springfish.

5.10.2 Wildlife Species

5.10.2.1 Southwestern Willow Flycatcher

Fuels management activities would generally occur in the upland areas rather than within suitable habitat for this species (FM-3 and FM-4). Such activities would result in no direct or indirect effects to this species.

Direct impacts to the Southwestern willow flycatcher from fire suppression could result in the incremental long-term disturbance of breeding and foraging habitat and added effects from habitat fragmentation. Direct short-term impacts could include the loss of eggs or young if fire activities were to occur during the breeding season. However, potential long-term impacts would be minimized through emergency stabilization and rehabilitation actions following any necessary fire suppression activities affecting these species. Indirect impacts from increased noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads and trails could further reduce habitat quality in the vicinity of fire suppression activities. Long-term beneficial effects would include improved ecological health and vegetation resiliency, and a reduction of potential fire events that could affect riparian habitats.

Emergency stabilization and rehabilitation activities would help reduce long-term impacts to affected habitats for the Southwestern willow flycatcher.

Determination

Effect on Critical Habitat. Critical habitat for the Southwestern willow flycatcher does not occur within the planning area. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Fire Management Program "may affect, not likely to adversely affect" Southwestern willow flycatcher.

5.10.2.2 Desert Tortoise

Wildland fires would have the potential to alter desert plant communities and encourage the proliferation of nonnative plant species, especially red brome. Such fires also could destroy forage and cover, as well as cause wildlife mortalities through exposure to smoke and heat. Tortoises would be susceptible to being killed, particularly when caught in the open or in shallow burrows, as a wildland fire moves past them. After a fire, tortoises may experience food shortages and inadequate cover. Individuals may be able to survive a short-term forage loss, since tortoises are adapted to food shortages during drought years. The loss of thermal cover may be a more important impact, particularly on sites where rocks are not available. Hatchlings and juvenile tortoises could be more vulnerable to predation as a consequence of reduced cover.

Activities associated with fire suppression could include the removal/disturbance of vegetation with hand tools, back burning, bulldozers or other heavy equipment; fire engines off of roads; and water and fire suppressant drops from helicopters and tankers. Direct impacts to the desert tortoise from activities associated with fire suppression would include removal, displacement or loss of individuals through burning or removal of habitat, and crushing and trampling of individuals and burrows from vehicles and foot traffic.

The construction of fire lines also has the potential to destroy nests and burrows. Indirect impacts from increased noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads and trails could further reduce habitat quality.

Under the Proposed RMP, full fire suppression tactics (FM-7) within desert tortoise habitat would reduce habitat loss. The use of suppression techniques to minimize surface disturbance and restrict off-highway vehicle travel to the minimum necessary to suppress wildland fires would limit habitat destruction or degradation and reduce the potential for direct mortalities. Off-road tracks created by suppression vehicles would be obliterated to the extent practical after the fire to minimize the creation of new permanent roads and trails. Education of fire crews about the desert tortoise and its habitat could reduce effects associated with suppression activities. The use of resource advisors in the development of suppression objectives would further mitigate impacts to tortoise habitat. Habitat loss within ACECs would be minimized by locating fire camps, staging, and helibases outside of the desert tortoise ACECs.

Fuels management involving the use of prescribed fires or other tools consistent with recovery goals and objectives may be implemented to help reduce the re-burn cycle (FM-3 and FM-4). Many areas burn repeatedly, reducing the potential for desired perennial and shrubs to return. By using these techniques on these areas, temporary fire breaks could be designed to reduce future fire size. Long-term beneficial effects of fuels management would include improved ecological health and vegetation resiliency, and a reduction of potential catastrophic fire events that could affect desert tortoise habitat.

Fuels management activities and impacts would be similar to those described above under fire suppression activities.

Determination

Effect on Critical Habitat. The BLM has determined that the Fire Management Program would not disturb or destroy beyond negligible levels any critical habitat for desert tortoise.

Effect on the Species. The BLM has determined that the Fire Management Program "may affect, likely to adversely affect" desert tortoise, both inside and outside of the ACECs.

5.11 Noxious and Invasive Weed Management

5.11.1 Fish Species

5.11.1.1 Pahrump Poolfish

Noxious and invasive weed management would not directly affect habitat for the Pahrump poolfish, since no treatment is planned for the area surrounding Shoshone Ponds. This area is not considered to have high potential for weed introduction and dispersal. Expansion of the fenced area to preclude livestock grazing would help prevent the introduction of noxious weeds from livestock in the short and long term.

Determination

Effect on Critical Habitat. Critical habitat for Pahrump poolfish has not been designated. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Noxious and Invasive Weed Program "may affect, not likely to adversely affect" Pahrump poolfish.

5.11.1.2 Big Spring Spinedace

Noxious weed management activities (WEED-1) could result in varying effects on Big Spring spinedace habitat including short-term disturbance on up to 12 acres of critical habitat. The mechanical removal of weeds would result in soil disturbance, which could contribute increased sediment input into Upper Meadow Valley Wash during runoff events. The extent of sediment input would depend upon the location of mechanical disturbance in relation to the stream channel. Increased sediment could directly alter fish habitat by covering bottom substrates or adversely affecting macroinvertebrate food sources for fish. The duration of sediment-related effects would be considered short-term (i.e., several months to several years until new vegetation is established). The eradication of monotypic tamarisk stands along Upper Meadow Valley Wash temporarily could remove a minor amount of overhanging cover that provides shade and streamside structure and also could result in localized sediment input into the stream due to reduced bank stability. Most mixed canopy tamarisk along Upper Meadow Valley Wash already has been removed, and removal and replacement of the remaining monotypic stands with native willow species potentially would improve critical habitat for this species in the long term. After new vegetation is established in several years, cover and bank stability would be established along the stream. Tamarisk removal also could result in potential improved water quality and increased water quantity in steams. Implementation of best management practices such as 1.3.13 regarding mixing of herbicides and 1.7.3 regarding herbicide application (see Appendix A, Section 1) would protect aquatic species from herbicide effects.

Determination

Effect on Critical Habitat. The BLM has determined that the Noxious and Invasive Weed Program has the potential to cause short-term disturbance on up to 12 acres of critical habitat for the Big Spring spinedace with long-term improvement of local treatment areas.

Effect on the Species. The BLM has determined that the Noxious and Invasive Weed Program "may affect, likely to adversely affect" Big Spring spinedace.

5.11.1.3 White River Springfish

Future weed treatment could occur along the access road and parking area near Ash Springs (WEED-1). Mechanical removal of weeds could result in short-term surface disturbance and sediment input to the spring depending on the extent of the disturbance area and location in relation to Ash Springs. Implementation of best management practices such as 1.3.13 regarding mixing of herbicides and 1.7.3 regarding herbicide application (see Appendix A, Section 1) would protect aquatic species from herbicide effects.

Determination

Effect on Critical Habitat. The BLM has determined that Noxious and Invasive Weed Program has the potential to cause short-term disturbance on up to 0.10 acre of critical habitat for the White River springfish with long-term improvement of local treatment areas.

Effect on the Species. The BLM has determined that the Noxious and Invasive Weed Program "may affect, likely to adversely affect" White River springfish.

5.11.2 Wildlife Species

5.11.2.1 Southwestern Willow Flycatcher

The majority of habitat used by this species within the planning area occurs on lands that are not managed by the BLM (e.g., Pahranagat National Wildlife Refuge, Key Pittman Wildlife Management Area, and private lands) and would not be impacted from noxious and invasive weed management. Activities associated with the treatment of noxious and invasive weeds on BLM-administered lands with potential Southwestern willow flycatcher habitat (e.g., Lower Meadow Valley Wash) would include application of herbicides, clearing or cutting vegetation by hand or machinery (e.g., chainsaw), and the use of off-highway vehicles or trucks (WEED-1). Potential impacts to this species from weed management activities could result in the long-term incremental reduction of potential breeding and foraging riparian habitat (i.e., tamarisk stands). Direct impacts also could result in the loss of eggs or young if weed management activities were to occur during the breeding season. Indirect impacts from noise and human presence could further reduce habitat quality in the vicinity of weed management activities in the short term. Potential impacts to this species and its habitat would be minimized through Section 7 consultation and the implementation of BLM best management practices. Beneficial effects would include a reduction in habitat degradation and noxious and invasive species, and increased habitat quality with reestablishment of native riparian species (i.e., willow).

Determination

Effect on Critical Habitat. Critical habitat for the Southwestern willow flycatcher does not occur within the planning area. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Noxious and Invasive Weeds Management Program "may affect, not likely to adversely affect" Southwestern willow flycatcher.

5.11.2.2 Desert Tortoise

Activities associated with the treatment of noxious and invasive weeds would include application of herbicides, clearing or cutting vegetation by hand or machinery (e.g., chainsaw), and the use of off-highway vehicles or trucks (WEED-1). Mechanical methods of invasive species control may involve the use of machinery, off-highway vehicles, or hand tools (see Appendix C, Tools and Techniques, and Appendix A, Best Management Practices). Potential direct impacts to the desert tortoise from weed management could result in the unintentional removal or destruction of individuals or habitat, loss of cover or food source, harassment, crushing of burrows, and injury or mortality of individuals from vehicles or machinery. Indirect impacts from noise and human presence could further reduce habitat quality in the vicinity of weed management activities in the short term. Potential impacts to this species and its habitat would be minimized through Section 7 consultation and the implementation of BLM best management practices. Beneficial effects would include a reduction in habitat degradation and noxious and invasive species, and increased habitat quality in the long term.

Determination

Effect on Critical Habitat. The BLM has determined that the Noxious and Invasive Weeds Management Program potentially would create short-term disturbance, but long-term improvement of local treatment areas in desert tortoise critical habitat both inside and outside of the ACECs.

Effect on the Species. The BLM has determined that the Noxious and Invasive Weeds Management Program "may affect, likely to adversely affect" desert tortoise, both inside and outside of the ACECs.

5.12 Special Designations

5.12.1 Fish Species

5.12.1.1 Pahrump Poolfish

A new ACEC (Shoshone Ponds) consisting of 1,240 acres would be implemented in the Shoshone Ponds (see **Map 2-32**) for the protection of this species (SD-3). Management actions for mineral development, fuelwood cutting, and renewable energy would be closed, which would eliminate future direct and indirect impacts to habitat from these activities. Limited off-highway vehicle, road maintenance, fire management, transportation, and livestock grazing management activities would occur within this new ACEC. In the short term (1 to 5 years), habitat characteristics would be the same as present conditions. It is anticipated that it would take at least 5 to 10 years before habitat conditions would improve for Pahrump poolfish. There would be no negative effects related to the ACEC designation.

Determination

Effect on Critical Habitat. Critical habitat for Pahrump poolfish has not been designated. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Special Designations Program "may affect, not likely to adversely affect" the Pahrump poolfish.

5.12.1.2 Big Spring Spinedace

A new ACEC (Condor Canyon) covering 4,500 acres would be implemented in the area surrounding the portion of Upper Meadow Valley Wash inhabited by Big Spring spinedace (SD-3) (see **Map 2-32**). The ACEC would be established for the long-term protection of this species and its critical habitat. Management actions for mineral development and renewable energy would be closed, which would eliminate future direct and indirect impacts on habitat from these activities. Limited off-highway vehicle, road maintenance, fire management, transportation, and livestock grazing management activities would occur within this new ACEC. Potential beneficial effects to habitat for the Big Spring spinedace would occur in at least 5 to 10 years after the restoration is implemented. There would be no negative effects related to the ACEC designation.

Determination

Effect on Critical Habitat. The BLM has determined that the Special Designations Program would not disturb or destroy beyond negligible levels any critical habitat for the Big Spring spinedace.

Effect on the Species. The BLM has determined that the Special Designations Program "may affect, not likely to adversely affect" the Big Spring spinedace.

5.12.1.3 White River Springfish

No new ACECs would be implemented for the area surrounding Ash Springs. Therefore, this program would not affect habitat for White River springfish.

Determination

Effect on Critical Habitat. The BLM has determined that the Special Designations Program would not disturb or destroy beyond negligible levels any critical habitat for the White River springfish.

Effect on the Species. The BLM has determined that the Special Designations Program would have "no effect" on White River springfish.

5.12.2 Wildlife Species

5.12.2.1 Southwestern Willow Flycatcher

A new ACEC encompassing approximately 25,000 acres (Lower Meadow Valley Wash) would be implemented in the Lower Meadow Valley Wash drainage for the protection of several special status species including the Southwestern willow flycatcher (SD-3) (see **Map 2-32**). This ACEC includes approximately 300 acres of Southwestern willow flycatcher habitat. Management actions for the ACEC include closure for plant collecting, locatable mineral development, mineral materials development, fuelwood cutting, and renewable energy, which would eliminate future impacts on habitat from these activities. Leasable mineral development would be subject to the no-surface-occupancy stipulation. The area would be an avoidance area for rights-of-way, no new roads would be developed, and the area would not be available for disposal. Off-highway vehicle use, road maintenance, fire management, and livestock grazing within the area would be limited. No negative direct or indirect impacts to the southwestern willow flycatcher would occur from the designation of ACECs on the planning area. Beneficial effects would result from the exclusion or reduction of management actions (e.g., livestock grazing, off-highway vehicle use, geology and mineral extraction, etc.) that otherwise would be permitted. As a result, effects to potential habitat for this species (i.e., riparian/wetland) within designated ACECs would include long term reduction in erosion, habitat degradation, and noxious and invasive species; and increased habitat quality, improved nesting and foraging habitat, and potential increases in species distribution in the long term.

Designation of the Rainbow Canyon and Silver State Trail as back country byways (SD-4) (see **Map 2-31**) would likely increase visitor used of this trail and may increase the level of direct and indirect impacts from human activity within potential habitat along Meadow Valley Wash. These activities are expected to have minimal effects on the species.

Determination

Effect on Critical Habitat. Critical habitat for the Southwestern willow flycatcher does not occur within the planning area. Therefore, an effects determination on critical habitat for this species is not applicable.

Effect on the Species. The BLM has determined that the Special Designations Program "may affect, not likely to adversely affect" Southwestern willow flycatcher.

5.12.2.2 Desert Tortoise

Redesignation of the three existing desert tortoise ACECs would directly benefit the threatened desert tortoise, assisting the recovery and delisting of the species in the Northeastern Mojave Recovery Unit. The three existing ACECs (Beaver Dam Slope – 36,800 acres; Kane Springs – 57,190 acres; and Mormon Mesa – 109,680 acres) would be retained and redesignated for the protection of desert tortoise (SD-1) (see **Map 2-32**). Management plans would be developed for these three ACECs to address and implement multiple-use management actions and conservation measures for desert tortoise (SD-2). No negative direct or indirect impacts to the desert tortoise would occur from the retention of these ACECs in the planning area. Beneficial effects would result from the exclusion or reduction of management actions (e.g., additional

rights-of-way, off-highway vehicle use, mineral extraction, land disposal, livestock grazing, renewable energy development, etc.) that otherwise would be permitted. As a result, effects to potential desert tortoise habitat within designated ACECs would include long term reduction in erosion, habitat degradation, and noxious and invasive species; and increased habitat quality, improved foraging habitat, and potential increases in species distribution. The effects of those various management prescriptions associated with designation of the ACECs are discussed in greater detail in the individual resource management programs.

Determination

Effect on Critical Habitat. The BLM has determined that the Special Designations Program would not disturb or destroy beyond negligible levels any critical habitat for the desert tortoise.

Effect on the Species. The BLM has determined that the Special Designations Program "may affect, not likely to adversely affect" desert tortoise inside the ACECs, and would have "no effect" outside the ACECs.

6.0 CUMULATIVE EFFECTS

Cumulative impacts include the effects of future state, tribal, local or private actions that are reasonably certain to occur in the planning area. Future federal actions that are unrelated to the Proposed RMP are not considered in this BA because they require separate consultation pursuant to Section 7 of the Endangered Species Act. The cumulative effects are only the result of future non-federal actions. Past and present impacts of non-federal actions are considered part of environmental baseline conditions. Cumulative impacts would involve effects resulting from specific Proposed RMP programs discussed in Section 5.0 in combination with cumulative actions.

The geographic area for cumulative impact analysis for special status aquatic species includes perennial drainages and springs within the planning area that provide occupied and designated critical habitat for federally-listed fish species. The analysis also includes perennial streams and springs on private, state, or tribal lands that are connected to drainages within the planning area and located immediately downgradient from the planning area boundary.

Several of the species discussed in this BA will be affected on a cumulative basis as additional conservation/impact minimization measures are identified through ongoing and future programs oriented toward development of habitat conservation plans (e.g., Southeastern Lincoln County Multi-species Habitat Conservation Plan).

6.1 Plant Species

The single plant species addressed in this BA, Ute ladies'-tresses, occurs on private lands in the Meadow Valley Wash near Panaca. Cumulative actions are primarily related to usage of the meadow area involved. The population has persisted on this site, although not evident over extended periods, for at least several decades in the presence of existing grazing and agricultural uses. While the population would probably benefit from reduced levels of activity on the site, its presence is not likely jeopardized unless the current use patterns change to include tillage or more intensive grazing. In some meadow situations, winter grazing and mowing are thought to benefit the species by providing favorable habitat conditions (Fertig et al. 2005).

6.2 Aquatic Species

6.2.1 Pahrump Poolfish

Cumulative actions for the Shoshone Ponds include grazing, water use for agriculture, and vehicle use on adjacent private land. Grazing and vehicle use could result in surface disturbance and sediment input into intermittent drainages and springs. Water use for livestock and agriculture could reduce water levels in springs on adjacent private land. However, it is doubtful that springs on adjacent private lands are connected to the Shoshone Ponds.

6.2.2 Big Spring Spinedace

Cumulative actions in the area include mining in the Pioche Mining District and possible expansion of the Panaca pozzolana mine, transportation within the adjacent Union Pacific Railroad right-of-way, grazing, and recreation use. These activities could result in surface disturbance and potential sediment input to Meadow Valley Wash and effects on riparian vegetation. Water use by cattle could occur in areas that drain into the Meadow Valley Wash drainage. Land development in the general area could use groundwater that may affect surface flows in Meadow Valley Wash. These activities could contribute to cumulative effects on habitat for the Big Spring spinedace involving water quality changes, potential flow reductions, and alterations of instream habitat or riparian vegetation.

6.2.3 White River Springfish

Cumulative actions in the Ash Spring area include agricultural use and grazing on private land and recreation use of the spring for swimming. Grazing and recreational use could result in surface disturbance and possible sediment input to the spring. Recreational swimming could disturb bottom substrates and submersed vegetation and adjacent shoreline areas. Water use for grazing and agriculture also could affect water quantity in Ash Springs. Groundwater consumption related to development of lands proposed for disposal in the Pahranagat Valley potentially could affect spring flow, depending on the location of water rights used for such development. Generally, development of these parcels would occur with conversion of existing agricultural water rights, resulting in a change in water consumption patterns, rather than quantity.

6.2.4 Hiko White River Springfish and Pahranagat Roundtail Chub

These fish species occur on private land in the White River Valley. Cumulative actions for these species include agricultural water use and surface disturbance and grazing. Surface disturbance activities could result in sediment input to Pahranagat Creek, Hiko Springs, and Crystal Springs. Water use could reduce water levels in the springs and creek as a result of agricultural use or water sources for livestock. Groundwater consumption related to development of lands proposed for disposal in the Pahranagat Valley potentially could affect spring flow, depending on the location of water rights used for such development. Generally, development of these parcels would occur with conversion of existing agricultural water rights, resulting in a change in water consumption patterns, rather than quantity.

6.2.5 Railroad Valley Springfish

This fish species occurs on the Duckwater Indian Reservation and private land associated with the Lockes Ranch. Cumulative actions include agricultural water use and surface disturbance and grazing. Effects are the same as discussed above for Hiko White River springfish and Pahranagat roundtail chub.

6.3 Wildlife Species

The geographical area for the cumulative impact analysis for special status terrestrial species includes private (380,465 acres), state (21,463 acres), and tribal lands (69,964 acres) that occur within the planning area.

6.3.1 Southwestern Willow Flycatcher

Cumulative actions that could affect the Southwestern willow flycatcher include livestock grazing, localized burning and weed management activities, and vehicle use on adjacent private, state, and tribal lands. Effects from livestock grazing would incrementally increase the overall effects to the Southwestern willow flycatcher within the planning area from localized vegetation trampling, removal of cover plants due to grazing or browsing, and erosion of stream banks within riparian/wetland habitat. Localized burning and weed management activities (e.g., tamarisk removal) within riparian habitat could result in the incremental long-term disturbance of breeding and foraging habitat and added effects from habitat fragmentation. Direct impacts also could result in the loss of eggs or young if fire activities were to occur during the breeding season. Indirect impacts from increased noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads and trails could further reduce habitat quality.

6.3.2 Desert Tortoise

Cumulative actions that could affect the desert tortoise include residential development, livestock grazing, and vehicle use on adjacent private lands. Private lands overlap approximately 42,111 acres of desert tortoise habitat, 23,872 acres of critical habitat, and 1,244 acres of ACECs (i.e., Kane Springs, Mormon Mesa, and Beaver Dam Slope). Cumulative effects to the desert tortoise from livestock grazing and vehicle use on private lands would include localized vegetation trampling, removal of cover plants due to grazing or browsing, increased collection opportunities, crushing of burrows, injury/mortality, and disruption of behavior from livestock or livestock management activities. Indirect impacts from increased noise and human presence, dispersal of noxious weeds, and dust effects associated with unpaved roads and trails could further reduce habitat quality.

7.0 PROPOSED CONSERVATION/IMPACT MINIMIZATION MEASURES

The specific management actions designed to potentially benefit one or more of the special status species under consideration in this BA are listed in **Table 7-1** in relation to the species that they would potentially benefit.

In addition to the management actions identified in the table and presented in Chapter 2 – Summary of Proposed RMP, a variety of best management practices would be implemented where appropriate for the benefit of special status species. These best management practices are listed in Appendix A. They would be applied on a case-by-case basis, as appropriate, and would benefit a variety of special status species by:

- Reducing conflicts with weed control activities;
- Reducing conflicts with livestock grazing activities; and
- Protecting water sources that provide habitat for aquatic special status species.

Additional conservation/impact minimization measures may be identified in the future as ongoing programs result in creation of habitat conservation plans (e.g., Southeastern Lincoln County Multi-species Habitat Conservation Plan).

Table 7-1
Species Potentially Benefited by Specific Management Actions in the Proposed RMP

	Aquatic							Wildlife		
	Pahrump Poolfish	Big Spring Spinedace	White River Springfish	Hiko White River Springfish	Pahranagat Roundtail Chub	White River Spinedace	Railroad Valley Springfish	Southwestern Willow Flycatcher	Desert Tortoise	Ute Ladies'-tresses
Program/Action										
Vegetation Resources										
VEG-24	X	X	X	X						
VEG-25	X	X	X	X				X		
Special Status Species										
SS-1	X	X	X	X	X	X	X	X	X	X
SS-2	X	X	X	X	X	X	X	X	X	X
SS-3	X	X	X	X	X	X	X	X	X	X
SS-10								X		
SS-11	X									
SS-12	X									
SS-13	X									
SS-14	X									
SS-15						X				
SS-16							X			
SS-17		X								
SS-18										X
SS-19								X		
SS-20								X		
SS-21			X							
SS-22				X						
SS-23					X					
SS-24 through SS-33									X	
Wild Horses										
WH-5								X	X	
WH-9									X	
Lands and Realty										
LR-1		X	X						X	
LR-2	X	X						X	X	
LR-5	X	X	X	X						
LR-33			X							
LR-38	X	X						X	X	

Table 7-1 (Continued)

	Aquatic							Wildlife		
	Pahrump Poolfish	Big Spring Spinedace	White River Springfish	Hiko White River Springfish	Pahranagat Roundtail Chub	White River Spinedace	Railroad Valley Springfish	Southwestern Willow Flycatcher	Desert Tortoise	Ute Ladies'-tresses
Program/Action										
LR-42	X	X						X	X	
LR-45									X	
LR-48								X		
LR-49									X	
Renewable Energy										
RE-2								X		
RE-6	X	X						X	X	
Travel Management and Off-highway Vehicle Use										
TM-5									X	
TM-6									X	
TM-7									X	
TM-8									X	
Recreation										
REC-13									X	
REC-14									X	
REC-15									X	
REC-17									X	
REC-18									X	
REC-19									X	
REC-20									X	
REC-21									X	
Livestock Grazing										
LG-2									X	
LG-3									X	
LG-8									X	
Geology and Mineral Extraction										
MIN-1									X	
MIN-2									X	
MIN-3									X	
MIN-9									X	
MIN-13									X	
MIN-16									X	
MIN-21									X	
Fire Management										
FM-7									X	

Table 7-1 (Continued)

	Aquatic							Wildlife		
	Pahrump Poolfish	Big Spring Spinedace	White River Springfish	Hiko White River Springfish	Pahranagat Roundtail Chub	White River Spinedace	Railroad Valley Springfish	Southwestern Willow Flycatcher	Desert Tortoise	Ute Ladies'-tresses
Program/Action										
Special Designations										
SD-1									X	
SD-2								X	X	
SD-3	X	X						X		

8.0 CONCLUSIONS AND DETERMINATIONS

The anticipated effects of individual resource management programs within the Ely Proposed RMP on various listed species are summarized in the following text and tables.

8.1 Fish Species

Table 8-1 presents the array of determination statements relative to effects of the various resource management programs on the Pahrump poolfish, Big Spring spinedace, and White River springfish and their habitat. As shown on the table, the resource programs may be grouped as follows with respect to their effect on these listed species:

1. Programs that "may affect, likely to adversely affect":

   - Livestock grazing effects on Big Spring spinedace; and
   - Noxious and invasive weed management effects on Big Spring spinedace and White River springfish.

2. Programs that "may affect, not likely to adversely affect":

   - Vegetation effects on Pahrump poolfish and Big Spring spinedace;
   - Special status species program effects on all three species;
   - Travel management and off-highway vehicle use effects on all three species;
   - Recreation effects on all three species;
   - Livestock grazing effects on Pahrump poolfish;
   - Geology and mineral extraction effects on Big Spring spinedace;
   - Fire management effects on all three species;
   - Noxious and invasive weed management effects on Pahrump poolfish; and
   - Special designations effects on Pahrump poolfish and Big Spring spinedace.

3. The remaining combinations of management programs and species not listed above have been categorized as "no effect".

Table 8-1
Effects Determination Summary for the Ely Biological Assessment – Fish Species

Program	Pahrump Poolfish	Big Spring Spinedace	White River Springfish
Vegetation	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: No effect.
Special Status Species	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect.
Wild Horses	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: No effect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: No effect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: No effect.
Lands and Realty	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: No effect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: No effect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: No effect.
Renewable Energy	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: No effect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: No effect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: No effect.
Travel Management and Off-highway Vehicle Use	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect.
Recreation	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat** No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect.
Livestock Grazing	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: No effect.
Geology and Mineral Extraction	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: No effect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: No effect.
Fire Management	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect.
Noxious and Invasive Weed Management	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat**: Short-term disturbance on up to 12 acres, but long-term improvement of local treatment areas. **Effect on the Species**: May affect, likely to adversely affect.	**Effect on Critical Habitat**: Short-term disturbance on up to 0.1 acre, but long-term improvement of local treatment areas. **Effect on the Species**: May affect, likely to adversely affect.
Special Designations	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: No effect.

[1] Critical habitat has not been designated for this species or, if designated, does not occur in the decision area.

8.2 Southwestern Willow Flycatcher

Table 8-2 presents the array of determination statements relative to effects of the various resource management programs on the Southwestern willow flycatcher and its habitat. None of the resource programs were determined as "may affect, likely to adversely affect". Those determined as "may affect, not likely to adversely affect" are listed below.

- Vegetation
- Special status species
- Wild horses
- Lands and realty
- Travel management and off-highway vehicle use
- Recreation
- Livestock grazing
- Fire management
- Noxious and invasive weed management
- Special designations

Programs not listed above were determined to have "no effect" on the species.

Table 8-2
Effects Determination Summary for the Ely Biological Assessment
Southwestern Willow Flycatcher

Program	Southwestern Willow Flycatcher
Vegetation	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.
Special Status Species	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.
Wild Horses	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.
Lands and Realty	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.
Renewable Energy	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: No effect.
Travel Management and Off-highway Vehicle Use	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.
Recreation	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.
Livestock Grazing	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.
Geology and Mineral Extraction	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: No effect.
Fire Management	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.
Noxious and Invasive Weed Management	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.
Special Designations	**Effect on Critical Habitat**: N/A[1] **Effect on the Species**: May affect, not likely to adversely affect.

[1] Critical habitat has not been designated for this species or, if designated, does not occur in the decision area.

8.3 Desert Tortoise

Table 8-3 presents the array of determination statements relative to effects of the various resource management programs on desert tortoise both within and outside of the three desert tortoise ACECs. The resource programs are grouped below with respect to their potential effects on the species both inside and outside of the ACECs.

1. Programs which "may affect, likely to adversely affect":

   - Lands and realty – both inside and outside the ACECs;
   - Renewable energy – outside the ACECs;
   - Recreation – both inside and outside the ACECs;
   - Livestock grazing – outside the ACECs;
   - Geology and mineral extraction – both inside and outside the ACECs;
   - Fire management – both inside and outside the ACECs; and
   - Noxious and invasive weed management – both inside and outside the ACECs.

2. Programs which "may affect, not likely to adversely affect":

   - Vegetation – outside the ACECs;
   - Special status species – both inside and outside the ACECs;
   - Wild horses – outside the ACECs;
   - Travel management and off-highway vehicle use – both inside and outside the ACECs; and
   - Special designations – inside the ACECs.

3. The remaining combinations of management programs and habitat areas not listed above have been categorized as "no effect".

Table 8-3
Effects Determination Summary for the Ely Biological Assessment
Desert Tortoise

Program	Desert Tortoise (inside ACECs)	Desert Tortoise (outside ACECs)
Vegetation	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect.
Special Status Species	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect.
Wild Horses	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: No effect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect.
Lands and Realty	**Effect on Critical Habitat**: May result in short-term disturbance of up to 11,079 acres of critical habitat. Long-term habitat destruction would be a small percentage of this total corridor area. **Effect on the Species**: May affect, likely to adversely affect.	**Effect on Critical Habitat**: May result in short-term disturbance of up to 10,817 acres of critical habitat. Long-term habitat destruction would be a small percentage of this total corridor area. **Effect on the Species**: May affect, likely to adversely affect.
Renewable Energy	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: No effect.	**Effect on Critical Habitat**: Minimal probability of disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, likely to adversely affect.
Travel Management and Off-highway Vehicle Use	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect.
Recreation	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, likely to adversely affect.
Livestock Grazing	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: No effect.	**Effect on Critical Habitat**: Limited habitat disturbance (i.e., grazing) could continue on up to 49,340 acres of critical habitat; no habitat destruction anticipated. **Effect on the Species**: May affect, likely to adversely affect.
Geology and Mineral Extraction	**Effect on Critical Habitat**: Potential disturbance of up to 94 acres related to existing locatable minerals claims or mineral materials development in Mormon Mesa and Beaver Dam Slope ACECs; limited likelihood of disturbances from fluid mineral development under no surface occupancy stipulation. **Effect on the Species**: May affect, likely to adversely affect.	**Effect on Critical Habitat**: Estimated short-term disturbance of up to 75 acres and long-term habitat destruction of up to 44 acres of critical habitat. **Effect on the Species**: May affect, likely to adversely affect.
Fire Management	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, likely to adversely affect.
Noxious and Invasive Weed Management	**Effect on Critical Habitat**: Short-term disturbance, but long-term improvement of local treatment areas. **Effect on the Species**: May affect, likely to adversely affect.	**Effect on Critical Habitat**: Short-term disturbance, but long-term improvement of local treatment areas. **Effect on the Species**: May affect, likely to adversely affect.
Special Designations	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: May affect, not likely to adversely affect.	**Effect on Critical Habitat**: No disturbance or destruction beyond negligible levels. **Effect on the Species**: No effect.

9.0 LITERATURE CITED

Anderson, Michelle D. 2001. *Coleogyne ramosissima*. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2005, June 25].

Arizona Game and Fish Department. 2001. *Gopherus agassizii*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, Arizona, 8 p.

Bradley, P. V., M. J. O'Farrell, J. A. Williams, and J. E. Newmark, editors. 2006. The Revised Nevada Bat Conservation Plan. The Nevada Bat Working Group. June 2006. Reno, Nevada. 216 pp.

Bureau of Land Management (BLM). 2005. Southern Nevada Complex Fires Burned Area Rehabilitation Plan, Bureau of Land Management – Ely and Las Vegas Field Offices, Nevada State Office.

_____. 2004. Las Vegas Field Office Programmatic Section 7 Consultation. Bureau of Land Management, Las Vegas Field Office. Biological Assessment for Implementation of the Red Rock Canyon National Conservation Area General Management within the Red Rock Herd Management Area. May 27, 2004.

_____. 2003. Draft South Powder River Basin Coal Environmental Impact Statement.

_____. 2001a. National Management Strategy for Motorized Off-highway Vehicle Use on Public Lands. U.S. Department of the Interior, Washington, D.C. January 19, 2001.

_____. 2001b. The Great Basin Restoration Initiative: The Eastern Nevada Landscape Restoration Project. A Project for Implementing the Great Basin Restoration Initiative. Ely Field Office, Ely, Nevada. July 10, 2001.

_____. 2000. Approved Caliente Management Framework Plan Amendment and Record of Decision for the Management of Desert Tortoise Habitat. Ely Field Office. Ely, Nevada. September 19, 2000. 86 pp.

_____. 1998. Riparian Area Management: Process for Assessing Proper Functioning Condition for Lentic and Riparian-Wetland Areas. TR 1737-11.

_____. 1986. Ely Cave Management Plan for the Ely District. Bureau of Land Management. Ely District. Ely, Nevada. 1986.

_____. Unpublished Geographic Information System Data.

Callison, J., J. D. Brotherson, and J. E. Bowns. 1985. The Effects of Fire on the Blackbrush [*Coleogyne ramosissima*] Community of Southwestern Utah. Journal of Range Management 38: 535-538.

Deacon, J. E., and W. L. Minckley. 1974. Desert Fishes. pp 385-488. In: Desert Biology, Volume II. G.W. Brown, editor. Academic Press, Inc. New York.

Desert Tortoise Council. 1994. Proceedings of the 1994 Annual Symposium.

Desert Tortoise Preserve Committee. No date. Life Cycle of the Desert Tortoise. Desert Tortoise Preserve Committee Internet site: http://www.tortoisetracks.org/gopherus/lifecycle.html. Accessed September, 15, 2005.

ENSR Corporation. 2004a. Fluid Minerals Potential Report for the Ely District Resource Management Plan. Prepared by ENSR Corporation, March 2004.

_____. 2004b. Minerals Potential Report for the Ely District Resource Management Plan. Prepared by ENSR Corporation, April 2004.

Fertig, W. 2000. Status Review of the Ute Ladies Tresses (*Spiranthes diluvialis*) in Wyoming. Report prepared for the Wyoming Cooperative Fish and Wildlife Research Unit, US Fish and Wildlife Service, and the Wyoming Game and Fish Department by the Wyoming Natural Diversity Database, Laramie, Wyoming.

Fertig, W., R. Black, and P. Wolken. 2005. Rangewide Status Review of Ute Ladies'-Tresses (*Spiranthes diluvialis*). Prepared for the U.S. Fish and Wildlife Service and Central Utah Water Conservancy District. 101 pp.

Guerrero, E., K. Teel, and G. Marfil. 1989. Condor Canyon Habitat Management Plan. BLM Caliente Resource Area and Nevada Department of Wildlife.

Haines, D. F., T. C. Esque, L. A. DeFalco, S. J. Scoles, M. L. Brooks and R. H. Webb. 2003. Fire and Exotics in the Mojave Desert: An Irreversible Change? A State-Transition Model for Blackbrush *(Coleogyne ramosissima)* Habitat. Conference Presentation: 2003 Arid Southwest Lands Habitat Restoration Conference. March 3, 2003.

Hobbs, B., J. Heinrich, J. Hutchings, M. Burrell, M. Beckstrand, B. Bauman, and J. Sjoberg. 2005. Nevada Department of Wildlife Aquatic Species Program 2004 Annual Report, Southern Region. January 1, 2004 through December 31, 2004. September 2005.

Hobbs, B., J. Heinrich, J. Hutchings, M. Burrell, M. Beckstrand, and J. Sjoberg. 2004. Nevada Department of Wildlife Native Aquatic Species Program 2003 Annual Report, Southern Region. January 1, 2003 through December 31, 2003. April 2004.

_____. 2003. Nevada Department of Wildlife Native Fish Program Annual Report, Southern Region. January 1, 2002 through December 31, 2002. May 2003.

Lee, D., C.R. Gilbert, C.H. Hocutt, R.E. Jenkins, D.E. McAllister, J.R. Stauffer. 1980. Atlas of North American Freshwater Fishes. Publication Number 1980-12 of the North Carolina Biological Survey, North Carolina State Museum of Natural History.

Minckley, W. 1973. *Fishes of Arizona.* Arizona Game and Fish Department. Phoenix, Arizona.

National Research Council. 1999. Hardrock Mining on Federal Lands. National Academy Press, Washington, D.C., 247 p.

Nevada Department of Wildlife. 2006. Breeding Status and Surveys for the Southwestern Willow Flycatcher and Yellow-billed Cuckoo at Sites in Southern Nevada. Nevada Department of Wildlife. Southern Region, Wildlife Diversity Program. Program Activities Report, January 1, 2005 through December 31, 2005. March 2006.

_____. 2005. Breeding Status and Surveys for the Southwestern Willow Flycatcher and Yellow-billed Cuckoo at Sites in Southern Nevada. Nevada Department of Wildlife. Southern Region, Wildlife Diversity Program. Program Activities Report, January 1, 2004 through December 31, 2004. March 2005.

_____. 2003a. 2001 Southern Region Native Fish Program Activities Report. January 1, 2001 through December 31, 2001.

_____. 2003b. Breeding Status and Surveys for the Southwestern Willow Flycatcher and Yellow-billed Cuckoo at Various Sites in Southern Nevada. Nevada Department of Wildlife, Southern Region Diversity Program. Program Activities Report, January 1, 2002, through December 31, 2002. February 2003.

_____. 2003c. Breeding Status and Surveys for the Southwestern Willow Flycatcher and Yellow-billed Cuckoo at Various Sites in Southern Nevada. Nevada Department of Wildlife, Southern Region Diversity Program. Program Activities Report, January 1, 2003, through December 31, 2003. October 2003.

_____. 2002. Breeding Status and Surveys for the Southwestern Willow Flycatcher and Yellow-billed Cuckoo at Various Sites in Southern Nevada. Nevada Department of Wildlife, Southern Region Diversity Program. Program Activities Report, January 1, 2001, through December 31, 2001. March 2002.

_____. 2000a. Big Spring Spinedace Recovery Implementation Plan (Draft).

_____. 2000b. White River Valley Native Fishes Management Plan.

_____. 2000c. Railroad Valley Springfish Species Monitoring Plan.

_____. 1999a. Big Spring Spinedace Monitoring and Nonnative Species Control Plan.

_____. 1999b. Pahranagat Valley Native Management Plan.

Sigler, W. F. and J. W. Sigler. 1987. Fishes of the Great Basin, A Natural History. University of Nevada Press, Reno, Nevada.

Sogge, M. K. and R. M. Marshall. 2000. A Survey of Current Breeding Habitats. Pages 43 – 56 in Finch, D. M. and S. H. Stoleson eds. 2000. Status, Ecology, and Conservation of the Southwestern Willow Flycatcher. 131 pp.

Sogge, M. K., R. M. Marshall, S. J. Sferra, and T. J. Tibbits. 1997. A Southwestern Willow Flycatcher Natural History Summary and Survey Protocol. National Park Service and Colorado Plateau Research Station at Northern Arizona University Technical Report NPS/NAUCPRS/NRTR-97/12. May 1997. 36 pp.

Stein, J., J. Heinrich, M. Burrell, T. Slatauski, C. Serway, and J. Sjoberg. 2001. Program Activities Report, January 1, 2000 through December 31, 2000. Nevada Department of Wildlife, Southern Region Native Fish and Amphibian Program.

SWCA Environmental Consultants. 2006. Southwestern Willow Flycatcher Surveys, Color-Banding, and Nest Monitoring in Southern Nevada, 2005. Annual Report of Activities State of Nevada Department of Wildlife Permit# S 25906. Submitted to: Nevada Game and Fish Department. February 3, 2006.

_____. 2005. Southwestern Willow Flycatcher (*Empidonax traillii extimus*) Surveys and Demography along the Virgin and Lower Colorado Rivers, 2004. Annual Report. Prepared for: State of Nevada, Department of Conservation and Natural Resources, Division of Wildlife and Nevada Game and Fish Department. February 7, 2005.

Tuttle, P., G. Scoppettone, and D. Withers. 1990. Status and Life History of Pahranagat River Fishes Completion Report. U.S. Fish and Wildlife Service, National Marine Fisheries Research Center, Seattle, Washington. 51 pp.

University of Nevada – Reno. 2002. *Lepidomeda mollispinis pratensis* Big Spring Spinedace. Internet Address: http://www.brrc.unr.edu/data/fish/lepiprat.html.

U.S. Department of the Interior and the U.S. Department of Agriculture. 2006. Surface Operating Standards and Guidelines for Oil and Gas Development; BLM/WO/ST-06/021+3071. BLM, Denver, Colorado. 84 p. Available at http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices/gold_ book.html.

U.S. Fish and Wildlife Service. 2006. Personal communication between K. Teel (BLM) and J. Krueger. November 8, 2006.

_____. 2005. Biological Opinion for the Meadow Valley Wash Emergency Stabilization Measures (Sites 1-4) and Programmatic Weed and Erosion Control Treatments in Lincoln and Clark Counties, Nevada. Nevada Fish and Wildlife Office, Reno, Nevada.

_____. 2004. Desert Tortoise Recovery Plan Assessment. Desert Tortoise Recovery Plan Assessment Committee, Desert Tortoise Recovery Office, Nevada Fish and Wildlife Office, October, 2004.

_____. 2003. Draft Programmatic Consultation Guidance. U.S. Fish and Wildlife Service. July 16, 2003.

_____. 2002. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico. August 30, 2002.

_____. 2001. Endangered and Threatened Wildlife and Plants; 12-month Finding for a Petition to List the Yellow-billed Cuckoo (*Coccyzus americanus*) in the Western Continental United States. Notice of 12-month Petition Finding.: July 25, 2001. Federal Register 66; 38611-38626.

_____. 2000. Biological Opinion for the Approved Caliente MFP Amendment and Record of Decision for the Management of Desert Tortoise Habitat. 2000.

_____. 1998. Recovery Plan for the Aquatic and Riparian Species of Pahranagat Valley. Portland, Oregon. 82 pp.

_____. 1996. Railroad Valley Springfish Recovery Plan. Region 1, Portland, Oregon. 57 pp.

_____. 1995a. Ute Ladies'-tresses (*Spiranthes diluvialis)* Recovery Plan. U.S. Fish and Wildlife Service, Denver, Colorado.

_____. 1995b. Endangered and Threatened Wildlife and Plants; Final Rule Determining Endangered Status for the Southwestern Willow Flycatcher. February 27, 1995. Federal Register 60: 10694 - 10715.

_____. 1994a. Desert Tortoise (Mojave Population) Recovery Plan. U.S. Fish and Wildlife Service, Portland, Oregon. 73 pages plus appendices.

_____. 1994b. White River Spinedace, *Lepidomeda albivallis*, Recovery Plan. Portland, Oregon. 45 pp.

_____. 1994c. Endangered and Threatened Wildlife and Plants; Determination of Critical Habitat for the Mojave Population of the Desert Tortoise. February 8, 1994. Federal Register 59: 5820-5866.

_____. 1993. Big Spring Spinedace, *Lepidomeda mollispinis pratensis*, Recovery Plan. Portland, Oregon. 42 pp.

_____. 1992. Endangered and Threatened Wildlife and Plants: Final Rule to List the Plant *Spiranthes diluvialis* (Ute ladies'-tresses) as a Threatened Species. Federal Register: January 17, 1992. 57: 2048-2054.

_____. 1985. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status and Critical Habitat for the Big Spring Spinedace. Federal Register 50(60): 12299-12302.

_____. 1980. Pahrump Killifish Recovery Plan. Region 1, Portland, Oregon. 30 pp.

U.S. Geological Survey. 2005. National Assessment of Oil and Gas Fact Sheet, Assessment of Undiscovered Oil and Gas Resources of the Eastern Great Basin Province, 2005. USGS Fact Sheet FS-2005-3053, May 2005.

Web, R. H., T. C. Esque, P. A. Medica, L. A. DeFalco, and M. B. Murov. 2001. Monitoring of ecosystem dynamics in the Mojave Desert: The Beatley permanent plots. U.S. Geological Survey Fact Sheet 040-01.< http://water.usgs.gov/pubs/fs/FS-040-01 > Last accessed 24 June 2005.

Wilde, G. 1989. Foods and Feeding Periodicity of the White River Springfish, *Crenichthys baileyi*. Great Basin Naturalist 49: 249-251.

Williams, C. 1986. Life History of the Railroad Valley Springfish, *Crenichthys nevadae* Hubbs (Cyprinodontidae), of East-central Nevada. M.S. Thesis, California State University, Sacramento, California.

Williams, C. and J. Williams. 1982. Summer Food Habits of Fishes from Two Springs in East-central Nevada. The Southwest Naturalist 27: 437-445.

10.0 LIST OF PREPARERS/LIST OF CONTACTS

10.1 List of Preparers

Bureau of Land Management

Paul Podborny	Ely Field Office
Bill Smith	Caliente Field Station
Kyle Teel	Caliente Field Station
Elroy Masters	State Office Reno

ENSR

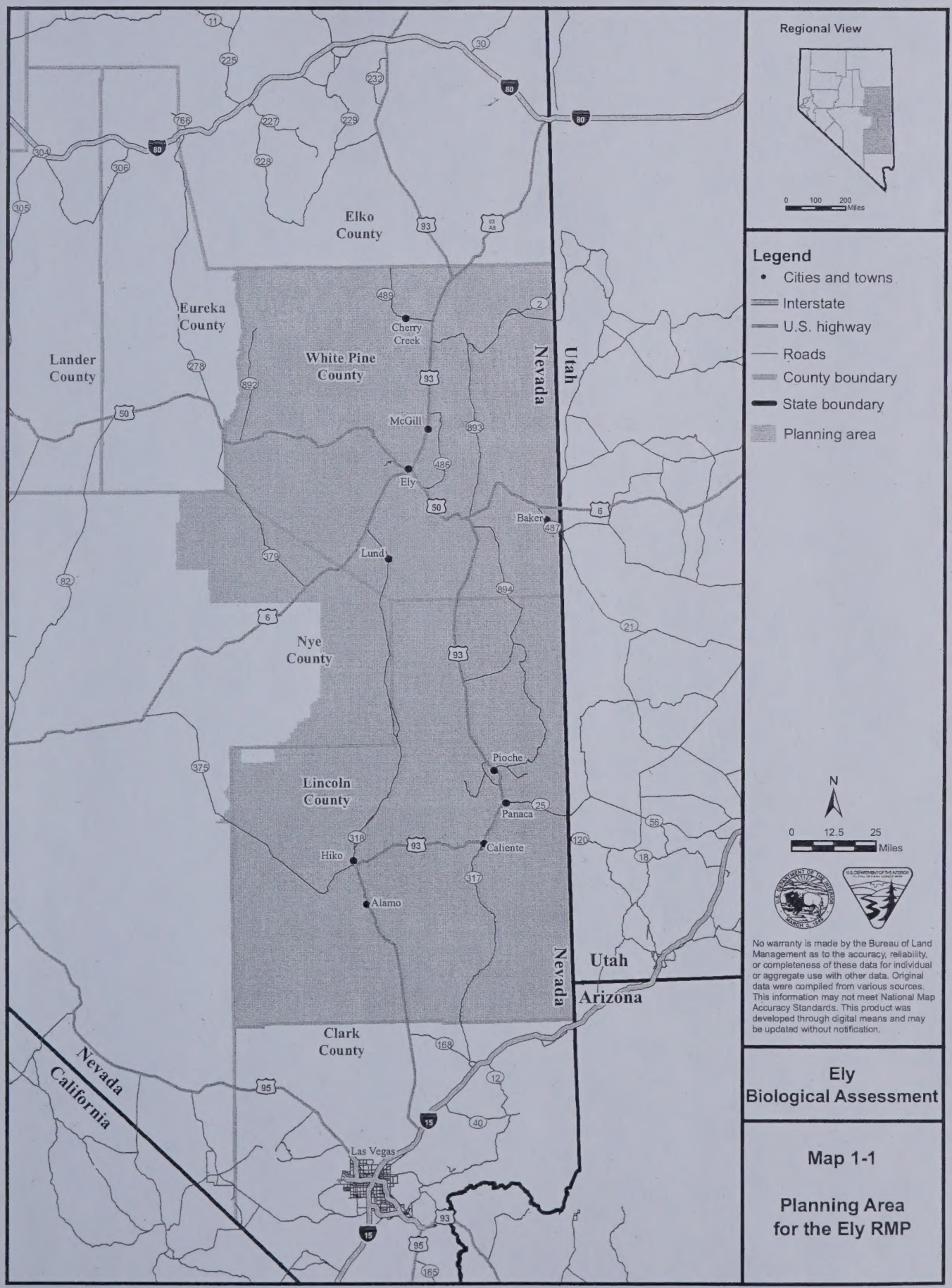
Rollin Daggett	Fish Species	Fort Collins, Colorado
Charles Johnson	Wildlife Species	Fort Collins, Colorado
Russ Moore	Plant Species	Fort Collins, Colorado

10.2 List of Contacts

U.S. Fish and Wildlife Service

Kevin Kritz
Jeri Kreuger
Shawn Goodchild

ELY BIOLOGICAL ASSESSMENT MAPS


Regional View
0 100 200 Miles
Legend
Cities and towns
Interstate
U.S. highway
Roads
County boundary
State boundary
Planning area
Elko County
Eureka County
Lander County
White Pine County
Nye County
Lincoln County
Clark County
Cherry Creek
McGill
Ely
Baker
Lund
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Panaca
Caliente
Hiko
Alamo
Las Vegas
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No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.
Ely
Biological Assessment
Map 1-1
Planning Area
for the Ely RMP

APPENDIX A, SECTION 1
BEST MANAGEMENT PRACTICES

APPENDIX A, SECTION 1
RESOURCE PROGRAM BEST MANAGEMENT PRACTICES

1.1 Introduction

Section 1 of this appendix contains best management practices developed by the Ely Field Office. They have been organized by the primary resource the best management practices would benefit or protect. Each best management practice could actually be implemented by a number of resource programs within the Field Office. Best management practices would be implemented at the discretion of the Ely Field Office on a project-specific basis, depending on the specific characteristics of the project area and the types of disturbance being proposed. They may not be appropriate to implement in all cases. It has been assumed for impact analysis that best management practices would be implemented wherever appropriate.

Best management practices are typically implemented at the discretion of the BLM Authorized Officer (the Field Manager or his/her designee) at the activity plan or project-specific level. The impact analysis in any project-specific NEPA document would be based on the reduction of impacts afforded by the application of those best management practices that are appropriate for the specific project under review. Best management practices may be added, deleted, or modified through plan maintenance as new and better information dictates.

1.2 Air Resources

1.2.1 Use dust abatement techniques on unpaved, unvegetated surfaces to minimize airborne dust.

1.2.2 Post and enforce speed limits (e.g., 25 miles per hour) to reduce airborne fugitive dust.

1.2.3 Cover construction materials and stockpiled soils if they are a source of fugitive dust.

1.2.4 Use dust abatement techniques before and during surface clearing, excavation, or blasting activities.

1.3 Water Resources

1.3.1 Avoid the application of fire retardant or foam within 300 feet of a stream channel or waterway, when possible, except for the protection of life and property. Aerial application and use of retardants and foams would be consistent with national policy guidelines established by the National Office of Fire and Aviation, as amended.

1.3.2 Fire engines that have surfactant foam mixes in tanks must be fitted with an anti-siphon (back flow protection valve) if filled directly from a stream channel.

1.3.3 Construct a containment barrier around all pumps and fuel containers utilized within 100 feet (30.5 meters) of a stream channel. The containment barrier would be of sufficient size to contain all fuel being stored or used on site.

1.3.4 Prior to use on lands administered by the Ely Field Office, all fire suppression equipment from outside the planning area utilized to extract water from lakes, streams, ponds, or spring sources (e.g., helicopter buckets, draft hoses, and screens) will be thoroughly rinsed to remove mud and debris and then disinfected to prevent the spread of invasive aquatic species. Rinsing equipment with disinfectant solution will not occur within 100 feet of natural water sources (i.e., lakes, streams, or springs). Ely suppression equipment utilized to extract water from water sources known to be contaminated with invasive aquatic species, as identified by the U.S. Fish and Wildlife Service and Nevada Department of Wildlife, also will be disinfected prior to use elsewhere on lands administered by the Ely Field Office.

1.3.5 Do not dump surfactant foam mixes from fire engines within 600 feet of a stream channel.

1.3.6 Do not conduct fire retardant mixing operations within 600 feet of a stream channel.

1.3.7 Remove all modifications made to impound or divert stream flow by mechanical or other means to facilitate extraction of water from a stream for fire suppression efforts when suppression efforts are completed.

1.3.8 When drafting or dipping water during fire operations, continuously monitor water levels at the site that water is being removed from. Do not allow water extraction to exceed the ability of the recharge inflow to maintain the water levels that exist at the time initial attack efforts began. If the water level drops below this predetermined level, all water removal would cease immediately until water levels are recharged.

1.3.8 When possible, do not cross or terminate fire control lines at the stream channel. Terminate control lines at the edge of the riparian zone at a location determined appropriate to meet fire suppression objectives based on fire behavior, vegetation/fuel types, and fire fighter safety.

1.3.10 Construct access roads and fords that cross stream channels to BLM road standards.

1.3.11 Do not construct new roads or mechanical fire control lines or improve existing roads within 300 feet of a stream channel unless authorized by the BLM Field Manager or Authorized Officer.

1.3.12 Limit stream crossings on travel routes and trails to the minimal number necessary to minimize sedimentation and compaction. The BLM Authorized Officer will determine if any impacts need to be rehabilitated by the permittee.

1.3.13 Conduct mixing of herbicides and rinsing of herbicide containers and spray equipment only in areas that are a safe distance from environmentally sensitive areas and points of entry to bodies of water (storm drains, irrigation ditches, streams, lakes, or wells).

1.3.14 A water well may be accepted by the BLM Ely Field Office upon completion of operations. The BLM authorized officer will make the determination whether to accept the well based upon the submission of the well completion forms and relevant hydrogeologic data reports. The well must be installed by drillers licensed by the state of Nevada according to specifications in Nevada Revised Statutes Title 48, Chapter 534.

1.4 Soil Resources

1.4.1 Require the use of specialized low-surface impact equipment (e.g., balloon tired vehicles) or helicopters, as determined by the BLM Authorized Officer, for activities in off-road areas where it is deemed necessary to protect fragile soils and other resource values.

1.4.2 During periods of adverse soil moisture conditions caused by climatic factors such as thawing, heavy rains, snow, flooding, or drought, suspend activities on existing roads that could create excessive surface rutting. When adverse conditions exist, the operator would contact the BLM Authorized Officer for an evaluation and decision based on soil types, soil moisture, slope, vegetation, and cover.

1.4.3 When preparing the site for reclamation, include contour furrowing, terracing, reduction of steep cut and fill slopes, and the installation of water bars, as determined appropriate for site-specific conditions.

1.4.4 Upon completion or temporary suspension of mining operations, backfill all holes and trenches and re-contour the pit to the natural slope, if possible, with pit walls greater than 3 feet in height knocked down and sloped at 3 horizontal to 1 vertical or to the original topography, whichever is less.

1.4.5 Restoration requirements include reshaping, re-contouring, and/or resurfacing with topsoil, installation of water bars, and seeding on the contour. Removal of structures such as culverts, concrete pads, cattle guards, and signs would usually be required. Fertilization and/or fencing of the disturbance may be required. Additional erosion control measures (e.g., fiber matting and barriers) to discourage road travel may be required.

1.5 Vegetation Resources

1.5.1 Where seeding is required, use appropriate seed mixture and seeding techniques approved by the BLM Authorized Officer.

1.5.2 The BLM Authorized Officer will specify required special handling and recovery techniques for Joshua trees, yucca, and some cactus in the southern part of the planning area on a site-specific basis.

1.5.3 Keep removal and disturbance of vegetation to a minimum through construction site management (e.g., using previously disturbed areas and existing easements, limiting equipment/materials storage and staging area sites, etc.).

1.5.4 Generally, conduct reclamation with native seeds that are representative of the indigenous species present in the adjacent habitat. Document rationale for potential seeding with selected nonnative species. Possible exceptions would include use of nonnative species for a temporary cover crop to out-complete weeds. In all cases, ensure seed mixes are approved by the BLM Authorized Officer prior to planting.

1.5.5 Certify that all interim and final seed mixes, hay, straw, and hay/straw products are free of plant species listed on the Nevada noxious weed list.

1.5.6 An area is considered to be satisfactorily reclaimed when all disturbed areas have been recontoured to blend with the natural topography, erosion has been stabilized, and an acceptable vegetative cover has been established. Use the Nevada Guidelines for Successful Revegetation prepared by the Nevada Division of Environmental Protection, the BLM, and the U.S. Department of Agriculture Forest Service (or most current revision or replacement of this document) to determine if revegetation is successful.

1.5.7 Reclamation bond release criteria would include the following:

The perennial plant cover of the reclaimed area would equal or exceed perennial cover of selected comparison areas (normally adjacent habitat). If the adjacent habitat is severely disturbed, an ecological site description may be used as a cover standard. Cover is normally crown cover as estimated by the point intercept method. Selected cover can be determined using a method as described in Sampling Vegetation Attributes, Interagency Technical Reference, 1996, BLM/RS/ST-96/002+1730. The reclamation plan for the area project would identify the site-specific release criteria and associated statistical methods in the reclamation plan or permit.

1.5.8 Utility companies will manage vegetation in their rights-of-way for safe and reliable operation while maintaining vegetation and wildlife habitat.

1.5.9 Respread weed-free vegetation removed from the right-of-way to provide protection, nutrient recycling, and seed source.

1.6 Fish and Wildlife

1.6.1 Install wildlife escape ramps in all watering troughs, including temporary water haul facilities, and open storage tanks. Pipe the overflow away from the last water trough on an open system to provide water at ground level.

1.6.2 As appropriate, mark certain trees on BLM-administered lands for protection as wildlife trees.

1.6.3 Consider seasonal distribution of large wildlife species when determining methods used to accomplish weed and insect control objectives.

1.6.4 Protect active raptor nests in undisturbed areas within 0.25 mile of areas proposed for vegetation conversion using species-specific protection measures. Inventory areas containing suitable nesting habitat for active raptor nests prior to the initiation of any project.

1.6.5 When used to pump water from any pond or stream, screen the intake end of the draft hose to prevent fish from being ingested. Screen opening size would be a maximum of 3/16 inch (4.7 millimeters).

1.6.6 Special recreation use permittees will take action to ensure that race participants and spectators do not harass wildlife.

1.7 Special Status Species

1.7.1 Avoid line-of-sight views between the power poles along powerlines and sage grouse leks, whenever feasible.

1.7.2 Use current science, guidelines, and methodologies (Avian Power Line Interaction Committee 1994, 1996, 2005) for all new and existing powerlines to minimize raptor and other bird electrocution and collision potential.

1.7.3 When managing weeds in areas of special status species, carefully consider the impacts of the treatment on such species. Wherever possible, hand spraying of herbicides is preferred over other methods.

1.7.4 Do not conduct noxious and invasive weed control within 0.5 mile of nesting and brood rearing areas for special status species during the nesting and brood rearing season.

1.7.5 To the greatest extent possible, survey all mine adits and shafts slated for closure for bat presence and use prior to being closed. Minimize impacts to bat roosts and bat habitat through the use of current science, guidelines, and methodologies when closing and abandoning mine adits.

1.7.6 Develop grazing systems to minimize conflicts with special status species habitat.

1.7.7 For streams currently occupied by any special status species, do not allow extraction of water from ponds or pools if stream inflow is minimal (i.e., during drought situations) and extraction of water would lower the existing pond or pool level.

1.7.8 When new spring developments are constructed on BLM lands and BLM has the authority to design the project, the source and surrounding riparian area will be fenced, the spring will be developed in a manner that leaves surface water at the source and maintains the associated riparian area; water will be provided outside the exclosure in a manner that provides drinking water for large ungulates, wild horses, and/or livestock so they are less likely to break into the exclosure.

1.7.9 Salt and mineral supplements:

- Base placement of salt and mineral supplements on site-specific assessment.
- Normally place salt and mineral supplements at least 0.5 mile away from riparian areas, sensitive sites, populations of special status plant species, cultural resource sites.
- Place salt at least 0.5 mile from any water source including troughs.
- Place salt and mineral supplements at least 1 mile from sage grouse leks.

1.7.9 Water hauling:

- Place water haul sites at least 0.5 mile away from riparian areas, cultural sites, and special status species locations.

- Limit water hauling to existing roads when possible.

1.8 Wild Horses

1.8.1 To protect wild horses and wildlife flag all new fences every 16 feet with white flagging that is at least 1 inch wide and has at least 12 inches hanging free from the top wire of the fence.

1.8.2 If a project involves heavy or sustained traffic, require road signs for safety and protection of wild horses and wildlife.

1.9 Cultural Resources

1.9.1 Ensure that all activities associated with the undertaking, within 100 meters of the discovery, are halted and the discovery is appropriately protected, until the BLM authorized officer issues a Notice to Proceed. A Notice to Proceed may be issued by the BLM under any of the following conditions:

- Evaluation of potentially eligible resource(s) results in a determination that the resource(s) are not eligible;

- The fieldwork phase of the treatment option has been completed; and

- The BLM has accepted a summary description of the fieldwork performed and a reporting schedule for that work.

1.9.2 The operator will inform all persons associated with the project that knowingly disturbing cultural resources (historic or archaeological) or collecting artifacts is illegal.

1.9.3 The BLM may approve cross-country operations of seismic trucks and support vehicles on bare frozen ground or over sufficient snow depth (vehicle traffic does not reveal the ground) so as to prevent surface disturbance.

1.9.4 Perform viewshed reclamation when the setting of a site contributes to the significance of the property.

1.10 Paleontological Resources

1.10.1 When paleontological resources of potential scientific interest are encountered (including all vertebrate fossils and deposits of petrified wood), leave them intact and immediately bring them to the attention of the BLM Authorized Officer.

1.11 Visual Resources

1.11.1 On industrial facilities authorized by the Ely Field Office, utilize anti-glare light fixtures to limit light pollution.

1.11.2 During the implementation of vegetation treatments, create irregular margins around treatment areas to better maintain the existing scenic character of the landscape.

1.11.3 When feasible, bury utility lines on public land when in the viewshed of residential or community development.

1.12 Travel Management and Off-highway Vehicle Use

1.12.1 Design access roads requiring construction with cut and fill to minimize surface disturbance and take into account the character of the landform, natural contours, cut material, depth of cut, where the fill material would be deposited, resource concerns, and visual contrast. Avoid construction of access roads on steep hillsides and near watercourses where alternate routes provide adequate access.

1.12.2 Where adverse impacts or safety considerations warrant, limit or prohibit public access when authorizing specific routes to areas or sites under permit or lease.

1.13 Recreation

1.13.1 Do not allow surface or underground disturbance to occur within 100 yards (horizontally or vertically) of known cave resources.

1.13.2 Where appropriate, do not allow ground disturbing activities within 100 yards of cave entrances, drainage areas, subsurface passages, and developed recreation sites. Do not dispose of waste material or chemicals in sinkholes or gates by cave entrances. if during construction activities any sinkholes or cave openings are discovered, cease construction activities and notify the BLM authorized officer.

1.14 Livestock Grazing

1.14.1 Water troughs

- Place troughs connected with spring developments outside of riparian and wetland habitats to reduce livestock trampling damage to wet areas.

- Control trough overflow at springs with float valves or deliver the overflow back into the native channel.

1.14.2 Based on allotment situations and circumstances associated with livestock grazing and multiple use management, implement any or all of the following appropriate management practices on winterfat dominated ecological sites.

- Develop grazing systems to control or rest grazing use on winterfat sites after March 1 or when the critical growing season begins. Allow spring grazing use during the critical growing period if a grazing rotation system that provides rest from grazing during the critical growing period at least every other year for all areas is in place. Utilization during the critical growth period should not exceed 35 percent under any circumstances.

- Place salt and supplements at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.

- Locate sheep bedding grounds and camps at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.

- Locate water haul sites at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.

- Construct livestock reservoirs away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.

- If water wells are approved to be drilled in winterfat dominated sites, strive to pipe the water at least 0.5 mile away from winterfat dominated sites. Base placement on site-specific assessment and characteristics such as riparian, topography, cultural, special status species, etc.

1.15 Mineral Extraction

1.15.1 Applications for permit to drill would follow the best management practices as outlined in the BLM oil and gas Gold Book (http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices/gold_book.html), as well as on-shore regulations, individual surface use plans, and conditions of approval that are part of the Record of Decision for site-specific projects.

1.15.2 Do not permit blasting if it would be detrimental to the significant characteristics of archeological or historical values, recreation areas, known caves, water wells, or springs.

1.15.3 Notify the BLM authorized officer within 5 days of completion of reclamation work so that timely compliance inspections can be completed.

1.16 Watershed Management

1.16.1 Manage activities, uses, and authorizations on burned areas to best meet resource management objectives established for the area in specific stabilization, restoration, or activity plans. The BLM authorized officer may open areas to livestock grazing based upon those considerations.

1.17 Fire Management

1.17.1 Notify valid existing land users (such as mine claimants, holders of rights-of-way, and livestock permittees) prior to implementation of prescribed fires that may affect their investments.

1.17.2 Remove vegetation, where appropriate, to protect facilities (e.g., range improvements, communication sites, and recreation sites).

1.17.3 Within the area of operation, every effort will be made to prevent, control, or suppress any fire. Fire-fighting equipment may be required to be on site while operations are in progress, depending on hazards inherent in the type of operation and fire hazard levels. Report uncontrolled fires immediately to the BLM Ely Field Office Manager or Authorized Officer. The BLM Fire Dispatch telephone number is (775) 289-1925 or 1-800-633-6092. After working hours, call 911 or the White Pine County Sheriff's Office at (775) 289-8801, the Lincoln County Sheriff's Office at (775) 962-5151, or the Nye County Sheriff's Office at (775) 482-8101.

1.18 Noxious and Invasive Weed Management

1.18.1 Control or restrict the timing of livestock movement to minimize the transport of livestock-borne noxious weed seeds, roots, or rhizomes between weed-infested and weed-free areas.

1.18.2 When maintaining unpaved roads on BLM-administered lands, avoid the unnecessary disturbance of adjacent native vegetation and the spread of weeds. Grade road shoulders or barrow ditches only when necessary to provide for adequate drainage. Minimize the width of grading operations.

The BLM Authorized Officer will meet with equipment operators to ensure that they understand this objective.

1.19 Health and Safety

1.19.1 Consider nozzle type, nozzle size, boom pressure, and adjuvant use and take appropriate measures for each herbicide application project to reduce the chance of chemical drift.

1.19.2 All applications of approved pesticides will be conducted only by certified pesticide applicators or by personnel under the direct supervision of a certified applicator.

1.19.3 Prior to commencing any chemical control program, and on a daily basis for the duration of the project, the certified applicator will provide a suitable safety briefing to all personnel working with or in the vicinity of the herbicide application. This briefing will include safe handling, spill prevention, cleanup, and first aid procedures.

1.19.4 Store all pesticides in areas where access can be controlled to prevent unauthorized/untrained people from gaining access to the chemicals.

1.19.5 Do not apply pesticides within 440 yards (0.25 mile) of residences without prior notification of the resident.

1.19.6 Areas treated with pesticides will be adequately posted to notify the public of the activity and of safe re-entry dates, if a public notification requirement is specified on the label of the product applied. The public notice signs will be at least 8 1/2" x 11" in size and will contain the date of application and the date of safe re-entry.

1.19.7 The recreation permittee will post warning signs at all known mine shafts and other hazardous areas that occur within 100 feet of a race course or pit/spectator area and will verbally inform race participants of all hazards at the pre-race meeting.

1.19.8 The recreation permittee will assume liability for and clean up of any and all releases of hazardous substances or oil (more than one quart) disposed on public land as defined in the National Oil and Hazardous Substances Contingency Plan (40 Code of Federal Regulations 300). The permittee will immediately notify the BLM Authorized Officer of any and all releases of hazardous substances or oil (more than one quart) on public land.

1.19.9 Properly dispose of all tailings, dumps, and deleterious materials or substances. Take measures to isolate, control, and properly dispose of toxic and hazardous materials.

1.19.10 Remove and properly dispose of all trash, garbage, debris, and foreign matter. Maintain the disposal site and leave it in a clean and safe condition. Do not allow burning at the site.

1.19.11 Do not drain oil or lubricants onto the ground surface. Immediately clean up any spills under 25 gallons; clean up spills over 25 gallons as soon as possible and report the incident to the BLM Authorized Officer and Nevada Division of Environmental Protection.

1.19.12 The operator will work with the BLM Authorized Officer on the containment of drilling fluids and drill hole cuttings. Adequately fence, post, or cover mud and separation pits, and hazardous material storage areas.

1.19.13 Locate powder magazines at least 0.25 mile from traveled roads. Attend loaded shot holes and charges at all times. Use explosives according to applicable federal and state regulations.

1.19.14 Containerize petroleum products such as gasoline, diesel fuel, helicopter fuel, and lubricants in approved containers. Properly store hazardous materials in separate containers to prevent mixing, drainage, or accidents.

APPENDIX A, SECTION 2
FLUID MINERALS LEASE NOTICES AND STIPULATIONS

APPENDIX A, SECTION 2
FLUID MINERALS LEASE NOTICES AND STIPULATIONS

LEASE NOTICES

Cultural Sites

Lands within this lease contain areas of known high potential for cultural resources. Properties known at the time of lease announcement that are listed on or eligible for the National Register of Historic Places will be avoided, where possible, by means of lease exclusions or by limits on surface use. The preferred avoidance option is to exclude areas containing National Register of Historic Places eligible sites from leasing and all forms of surface disturbance. Cultural sites not avoided may require consultation with State Historic Preservation Officer and treatment plans.

Historic Sites

Lands within this lease are in proximity to or contain portions of the Pony Express National Historic Trail, the Hastings Cutoff, the Lincoln Highway, or the Osceola Ditch. Oil and gas exploration and development activities within 1 mile of these sites must undergo a visual assessment in conjunction with environmental review to determine if the activity will adversely affect the visual integrity. Appropriate mitigation will take place as necessary to maintain the management corridor in as natural a condition as possible.

Desert Tortoise Habitat

Lands within this lease will require Section 7 consultation prior to any surface disturbance in desert tortoise habitat. The BLM must ensure that the impacts from the operation do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. The operator, U.S. Fish and Wildlife Service, and the BLM also must reach concurrence that the proposed actions are below the jeopardy or adverse modification threshold. If it is determined that through the review of the plan of operation and the use of mitigation measures that the operation is not below the jeopardy or adverse modification threshold, the project would not go forward.

LEASE TIMING STIPULATIONS

Resource: **Desert Tortoise Habitat**

Stipulation: Timing Limitation. No surface activity would be allowed within desert tortoise habitat from March 1 through October 31.

Objective: To protect desert tortoise during the most active period to maintain desert tortoise populations.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with U.S. Fish and Wildlife Service, if the operator submits a plan that demonstrates that impacts from the proposed action would not adversely affect desert tortoise habitat.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with U.S. Fish and Wildlife Service, determines that portions of the area can be occupied without adversely affecting desert tortoise. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.

Waiver: The stipulation may be waived if the authorized officer, in consultation with U.S. Fish and Wildlife Service, determines that the entire leasehold is no longer occupied by desert tortoise.

Resource: **Sage Grouse Nesting Habitat Associated with Leks**

Stipulation: Timing Limitation. No surface activity would be allowed within two miles of a sage grouse lek from March 1 through May 15 (June 15).

Objective: To protect sage grouse nesting activities associated with leks to maintain sage grouse populations.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area can be occupied without adversely affecting sage grouse nesting activity. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold no longer contains nesting habitat for sage grouse.

Resource: **Sage Grouse Winter Range**

Stipulation: Timing Limitation. No surface activity would be allowed within winter range for sage grouse from November 1 through March 31.

Objective: To protect sage grouse from disturbance during the crucial winter period to maintain sage grouse populations.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area no longer contain sage grouse winter habitat. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold no longer contains winter range for sage grouse.

Resource: **Raptor Nest Sites**

Stipulation: Timing Limitation. No surface activity would be allowed from May 1 through July 15 within 0.5 mile of a raptor nest site which has been active within the past five years.

Objective: To protect raptor nesting activities to maintain existing populations.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area can be occupied without adversely affecting raptor nesting activity. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold no longer contains raptor nest sites.

Resource: **Big Game Calving/Fawning/Kidding/Lambing Grounds**

Stipulation: Timing Limitation. No surface activity would be allowed within big game calving/fawning/kidding/lambing grounds from April 15 through June 30.

Objective: To protect elk, mule deer, pronghorn antelope, and Rocky Mountain bighorn sheep from disturbance during calving, fawning, kidding, and lambing to maintain wildlife populations.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area can be

occupied without adversely affecting big game calving, fawning, kidding, and lambing. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold no longer contains big game calving/fawning/kidding/lambing grounds.

Resource: **Big Game Crucial Winter Range**

Stipulation: Timing Limitation. No surface activity would be allowed within big game crucial winter range from November 1 through March 31.

Objective: To protect elk, mule deer, and pronghorn antelope from disturbance during the crucial winter period to maintain wildlife populations.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area no longer contain winter habitat. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold no longer contains crucial winter range for big game.

Resource: **Desert Bighorn Sheep Habitat**

Stipulation: Timing Limitation. No surface activity would be allowed within occupied desert bighorn sheep habitat from March 1 through May 31 and from July 1 through August 31.

Objective: To protect desert bighorn sheep from disturbance during lambing and the crucial hot summer months to maintain existing populations.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area can be occupied without adversely affecting desert bighorn sheep. The dates for the timing

restriction may be modified if new information indicates the dates are not valid for the leasehold.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the entire leasehold is no longer occupied by desert bighorn sheep.

LEASE – NO SURFACE OCCUPANCY STIPULATIONS

Resource: **Desert Tortoise ACEC**

Stipulation: No surface occupancy would be allowed within the Beaver Dam Slope ACEC or the Mormon Mesa ACEC.

Purpose: These areas encompass the habitat which has been determined to be critical to the survival of the desert tortoise population. The desert tortoise is a listed species under the Endangered Species Act.

Exception: The authorized officer may grant an exception (allow surface occupancy) upon completion of formal consultation with the U.S. Fish and Wildlife Service that yields a no-jeopardy opinion if a plan of development is submitted that does not significantly impact tortoise habitats or populations. The plan of development must demonstrate no significant impact will occur through mitigation of impacts, compensation (in accordance with BLM policy), and restoration of the land to pre-disturbance condition.

or no adverse mod.

Modification: None

Waiver: None

Resource: **Sage Grouse Leks**

Stipulation: No surface occupancy. No surface use would be allowed within 0.25 mile of a sage grouse lek.

Objective: To protect sage grouse breeding activities and the integrity of the habitat associated with sage grouse leks to maintain sage grouse populations.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Nevada Department of Wildlife, if the operator submits a plan that demonstrates that impacts from the proposed action would not affect breeding activity nor degrade the integrity of the habitat associated with the sage grouse lek.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with Nevada Department of Wildlife, determines that portions of the area can be occupied without adversely affecting the sage grouse lek.

Waiver: The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife, determines that the lek has been inactive for at least five consecutive years or the habitat has changed such that there is no likelihood the lek would become active.

Resource: **Threatened and Endangered and Sensitive Species Sites**

Stipulation: No ground disturbance activities would be allowed within the boundaries of areas known to contain unusually high concentrations of threatened, endangered, or BLM or State sensitive species. No surface occupancy would be allowed within the:

Baking Powder Flat Proposed ACEC
Condor Canyon Proposed ACEC
Highland Range Proposed ACEC
Lower Meadow Valley Wash Proposed ACEC
Schlesser Pincushion Proposed ACEC
Shoshone Ponds Proposed ACEC
Swamp Cedar Proposed ACEC
White River Valley Proposed ACEC

Purpose: To protect threatened and endangered and sensitive species.
Avoid BLM-approved activities that contribute to a need to list a species or its habitat as threatened or endangered.

Exception: None

Modification: None

Waiver: None

Resource: **Cultural Sites**

Stipulation: No ground disturbance activities would be allowed within the boundaries of cultural properties and archaeological/historic districts determined to be eligible or potentially eligible to the National Register of Historic Places. No surface occupancy would be allowed within the:

Baker Archeological Site Proposed ACEC
Hendry's Creek/Rock Animal Corral Proposed ACEC
Honeymoon Hill/City of Rocks Proposed ACEC

Mount Irish Proposed ACEC
Pahroc Rock Art Proposed ACEC
Rose Guano Bat Cave Proposed ACEC
Shooting Gallery Proposed ACEC
Snake Creek Indian Burial Cave Proposed ACEC
Sunshine Locality National Register District
White River Archeological District

Purpose: To protect significant cultural properties and archaeological districts and their settings.

Exception: None.

Modification: None.

Waiver: None.

Resource: **Paleontological Sites**

Stipulation: No ground disturbance activities would be allowed within the boundaries of areas of known paleontological sites/locales. No surface occupancy would be allowed within the:

Andies Mine Trilobite Site

Purpose: To preserve and protect significant vertebrate fossils and paleontological sites.

Exception: None

Modification: None

Waiver: None

Resource: **Natural, Scenic, and Recreation Sites**

Stipulation: No ground disturbance activities would be allowed within the boundaries of areas that exhibit exceptional natural, scenic, or recreational values. No Surface Occupancy would be allowed within the:

Ash Springs Proposed Withdrawal
Blue Mass Scenic Area Proposed ACEC
Cleve Creek Recreation Site
Egan Crest Trailhead
Garnet Hill
Illipah Reservoir
Kirch Wildlife Management Area

Sacramento Pass Recreation Site
Ward Mountain Recreation Site
White Pine County Shooting Range

Purpose: To protect the public's opportunity for quality recreation experiences at those sites developed for those purposes.
To prevent user conflicts and incompatible uses in areas with high recreational values and significant amounts of recreational activity.
To control the visual impacts of activities and facilities within acceptable levels.

Exception: None

Modification: None

Waiver: A waiver may be granted for a site if it is moved or eliminated.

Resource: **BLM Facilities**

Stipulation: No surface occupancy would be allowed within the areas proposed for withdrawal at:

Caliente Field Station
Pony Springs Fire Station

Purpose: To protect the operation and maintenance of the BLM's facilities.

Exception: None

Modification: None

Waiver: None

APPENDIX A, SECTION 3
BLM WIND ENERGY DEVELOPMENT PROGRAM POLICIES AND BEST MANAGEMENT PRACTICES

BLM WIND ENERGY DEVELOPMENT PROGRAM POLICIES AND BEST MANAGEMENT PRACTICES (BMPS)

The BLM's Wind Energy Development Program will establish a number of policies and BMPs, provided below, regarding the development of wind energy resources on BLM-administered public lands. The policies and BMPs will be applicable to all wind energy development projects on BLM-administered public lands. The policies address the administration of wind energy development activities, and the BMPs identify required mitigation measures that would need to be incorporated into project-specific Plans of Development (PODs) and right-of-way (ROW) authorization stipulations. Additional mitigation measures will be applied to individual projects, in the form of stipulations in the ROW authorization as appropriate, to address site-specific and species-specific issues.

These policies and BMPs were formulated through preparation of the Final Wind Energy PEIS (BLM 2005). The PEIS included detailed, comprehensive analysis of the potential impacts of wind energy development and relevant mitigation measures; reviews of existing, relevant mitigation guidance; and reviews of comments received during scoping and public review of the Draft PEIS.

A.1 Policies

- The BLM will not issue ROW authorizations for wind energy development on lands on which wind energy development is incompatible with specific resource values. Lands that will be excluded from wind energy site monitoring and testing and development include designated areas that are part of the National Landscape Conservation System (NLCS) (e.g., Wilderness Areas, Wilderness Study Areas, National Monuments, NCAs,[1] Wild and Scenic Rivers, and National Historic and Scenic Trails) and Areas of Critical Environmental Concern (ACECs).[2] Additional areas of land may be excluded from wind energy development on the basis of findings of resource impacts that cannot be mitigated and/or conflict with existing and planned multiple-use activities or land use plans.

- To the extent possible, wind energy projects shall be developed in a manner that will not prevent other land uses, including minerals extraction, livestock grazing, recreational use, and other ROW uses.

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[1] Wind energy development is permitted in one NCA, the California Desert Conservation Area (CDCA), in accordance with the provisions of the *California Desert Conservation Area Plan 1980, as Amended* (BLM 1999).

[2] Although the MPDS developed for this PEIS (Section 2.2.1 and Appendix B) did not exclude all of these lands at the screening level, they will be excluded from wind energy development.

concerns associated with an individual project, including potential cumulative impacts, the BLM will tier off of the decisions embedded in the PEIS and limit the scope of additional project-specific NEPA analyses. The site-specific NEPA analyses will include analyses of project site configuration and micrositing considerations, monitoring program requirements, and appropriate mitigation measures. In particular, the mitigation measures discussed in Chapter 5 of the PEIS may be consulted in determining site-specific requirements. Public involvement will be incorporated into all wind energy development projects to ensure that all concerns and issues are identified and adequately addressed. In general, the scope of the NEPA analyses will be limited to the proposed action on BLM-administered public lands; however, if access to proposed development on adjacent non-BLM-administered lands is entirely dependent on obtaining ROW access across BLM-administered public lands and there are no alternatives to that access, the NEPA analysis for the proposed ROW may need to assess the environmental effects from that proposed development. The BLM's analyses of ROW access projects may tier off of the PEIS to the extent that the proposed project falls within the scope of the PEIS analyses.

- Site-specific environmental analyses will tier from the PEIS and identify and assess any cumulative impacts that are beyond the scope of the cumulative impacts addressed in the PEIS.

- The Categorical Exclusion (CX) applicable to the issuance of short-term ROWs or land use authorizations may be applicable to some site monitoring and testing activities. The relevant CX, established for the BLM in the DOI Departmental Manual 516, Chapter 11, Sec. 11.5, E(19) (DOI 2004), encompasses "issuance of short-term (3 years or less) rights-of-way or land use authorizations for such uses as storage sites, apiary sites, and construction sites where the proposal includes rehabilitation to restore the land to its natural or original condition."

- The BLM will require financial bonds for all wind energy development projects on BLM-administered public lands to ensure compliance with the terms and conditions of the rights-of-way authorization and the requirements of applicable regulatory requirements, including reclamation costs. The amount of the required bond will be determined during the rights-of-way authorization process on the basis of site-specific and project-specific factors. The BLM may also require financial bonds for site monitoring and testing authorizations.

- Entities seeking to develop a wind energy project on BLM-administered public lands shall develop a project-specific Plan of Development (POD) that incorporates all BMPs and, as appropriate, the requirements of other existing and relevant BLM mitigation guidance, including the BLM's interim off-site mitigation guidance (BLM 2005a). Additional mitigation measures will be

BLM WIND ENERGY DEVELOPMENT PROGRAM POLICIES AND BEST MANAGEMENT PRACTICES (BMPS)

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These policies and BMPs were formulated through preparation of the Final Wind Energy PEIS (BLM 2005). The PEIS included detailed, comprehensive analysis of the potential impacts of wind energy development and relevant mitigation measures; reviews of existing, relevant mitigation guidance; and reviews of comments received during scoping and public review of the Draft PEIS.

A.1 Policies

- The BLM will not issue ROW authorizations for wind energy development on lands on which wind energy development is incompatible with specific resource values. Lands that will be excluded from wind energy site monitoring and testing and development include designated areas that are part of the National Landscape Conservation System (NLCS) (e.g., Wilderness Areas, Wilderness Study Areas, National Monuments, NCAs,[1] Wild and Scenic Rivers, and National Historic and Scenic Trails) and Areas of Critical Environmental Concern (ACECs).[2] Additional areas of land may be excluded from wind energy development on the basis of findings of resource impacts that cannot be mitigated and/or conflict with existing and planned multiple-use activities or land use plans.

- To the extent possible, wind energy projects shall be developed in a manner that will not prevent other land uses, including minerals extraction, livestock grazing, recreational use, and other ROW uses.

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[1] Wind energy development is permitted in one NCA, the California Desert Conservation Area (CDCA), in accordance with the provisions of the *California Desert Conservation Area Plan 1980, as Amended* (BLM 1999).

[2] Although the MPDS developed for this PEIS (Section 2.2.1 and Appendix B) did not exclude all of these lands at the screening level, they will be excluded from wind energy development.

- Entities seeking to develop a wind energy project on BLM-administered lands shall consult with appropriate federal, state, and local agencies regarding specific projects as early in the planning process as appropriate to ensure that all potential construction, operation, and decommissioning issues and concerns are identified and adequately addressed.

- The BLM will initiate government-to-government consultation with Indian Tribal governments whose interests might be directly and substantially affected by activities on BLM-administered lands as early in the planning process as appropriate to ensure that construction, operation, and decommissioning issues and concerns are identified and adequately addressed.

- Entities seeking to develop a wind energy project on BLM-administered lands, in conjunction with BLM Washington Office (WO) and Field Office (FO) staff, shall consult with the U.S. Department of Defense (DoD) regarding the location of wind power projects and turbine siting as early in the planning process as appropriate. This consultation shall occur concurrently at both the installation/field level and the Pentagon/BLM WO level. An interagency protocol agreement is being developed to establish a consultation process and to identify the scope of issues for consultation. Lands withdrawn for military purposes are under the administrative jurisdiction of the DoD or a military service and are not available for issuance of wind energy authorizations by the BLM.

- The BLM will consult with the U.S. Fish and Wildlife Service (USFWS) as required by Section 7 of the Endangered Species Act of 1973 (ESA). The specific consultation requirements will be determined on a project-by-project basis.

- The BLM will consult with the State Historic Preservation Office (SHPO) as required by Section 106 of the National Historic Preservation Act of 1966 (NHPA). The specific consultation requirements will be determined on a project-by-project basis. If programmatic Section 106 consultations have been conducted and are adequate to cover a proposed project, additional consultation may not be needed.

- Existing land use plans will be amended, as appropriate, to (1) adopt provisions of the BLM's Wind Energy Development Program, (2) identify land considered to be available for wind energy development, and (3) identify land that will not be available for wind energy development.

- The level of environmental analysis to be required under NEPA for individual wind power projects will be determined at the FO level. For many projects, it may be determined that a tiered environmental assessment (EA) is appropriate in lieu of an EIS. To the extent that the PEIS addresses anticipated issues and

concerns associated with an individual project, including potential cumulative impacts, the BLM will tier off of the decisions embedded in the PEIS and limit the scope of additional project-specific NEPA analyses. The site-specific NEPA analyses will include analyses of project site configuration and micrositing considerations, monitoring program requirements, and appropriate mitigation measures. In particular, the mitigation measures discussed in Chapter 5 of the PEIS may be consulted in determining site-specific requirements. Public involvement will be incorporated into all wind energy development projects to ensure that all concerns and issues are identified and adequately addressed. In general, the scope of the NEPA analyses will be limited to the proposed action on BLM-administered public lands; however, if access to proposed development on adjacent non-BLM-administered lands is entirely dependent on obtaining ROW access across BLM-administered public lands and there are no alternatives to that access, the NEPA analysis for the proposed ROW may need to assess the environmental effects from that proposed development. The BLM's analyses of ROW access projects may tier off of the PEIS to the extent that the proposed project falls within the scope of the PEIS analyses.

- Site-specific environmental analyses will tier from the PEIS and identify and assess any cumulative impacts that are beyond the scope of the cumulative impacts addressed in the PEIS.

- The Categorical Exclusion (CX) applicable to the issuance of short-term ROWs or land use authorizations may be applicable to some site monitoring and testing activities. The relevant CX, established for the BLM in the DOI Departmental Manual 516, Chapter 11, Sec. 11.5, E(19) (DOI 2004), encompasses "issuance of short-term (3 years or less) rights-of-way or land use authorizations for such uses as storage sites, apiary sites, and construction sites where the proposal includes rehabilitation to restore the land to its natural or original condition."

- The BLM will require financial bonds for all wind energy development projects on BLM-administered public lands to ensure compliance with the terms and conditions of the rights-of-way authorization and the requirements of applicable regulatory requirements, including reclamation costs. The amount of the required bond will be determined during the rights-of-way authorization process on the basis of site-specific and project-specific factors. The BLM may also require financial bonds for site monitoring and testing authorizations.

- Entities seeking to develop a wind energy project on BLM-administered public lands shall develop a project-specific Plan of Development (POD) that incorporates all BMPs and, as appropriate, the requirements of other existing and relevant BLM mitigation guidance, including the BLM's interim off-site mitigation guidance (BLM 2005a). Additional mitigation measures will be

incorporated into the POD and into the ROW authorization as project stipulations, as needed, to address site-specific and species-specific issues. The POD will include a site plan showing the locations of turbines, roads, power lines, other infrastructure, and other areas of short- and long-term disturbance.

- The BLM will incorporate management goals and objectives specific to habitat conservation for species of concern (e.g., sage-grouse), as appropriate, into the POD for proposed wind energy projects.

- The BLM will consider the visual resource values of the public lands involved in proposed wind energy development projects, consistent with BLM Visual Resource Management (VRM) policies and guidance. The BLM will work with the ROW applicant to incorporate visual design considerations into the planning and design of the project to minimize potential visual impacts of the proposal and to meet the VRM objectives of the area.

- Operators of wind power facilities on BLM-administered public lands shall consult with the BLM and other appropriate federal, state, and local agencies regarding any planned upgrades or changes to the wind facility design or operation. Proposed changes of this nature may require additional environmental analysis and/or revision of the POD.

- The BLM's Wind Energy Development Program will incorporate adaptive management strategies to ensure that potential adverse impacts of wind energy development are avoided (if possible), minimized, or mitigated to acceptable levels. The programmatic policies and BMPs will be updated and revised as new data regarding the impacts of wind power projects become available. At the project-level, operators will be required to develop monitoring programs to evaluate the environmental conditions at the site through all phases of development, to establish metrics against which monitoring observations can be measured, to identify potential mitigation measures, and to establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures and project-specific stipulations.

A.2 Best Management Practices (BMPs)

The BMPs will be adopted as required elements of project-specific PODs and/or as ROW authorization stipulations. They are categorized by development activity: site monitoring and testing, development of the POD, construction, operation, and decommissioning. The BMPs for development of the POD identify required elements of the POD needed to address potential impacts associated with subsequent phases of development.

A.2.1 Site Monitoring and Testing

- The area disturbed by installation of meteorological towers (i.e., footprint) shall be kept to a minimum.

- Existing roads shall be used to the maximum extent feasible. If new roads are necessary, they shall be designed and constructed to the appropriate standard.

- Meteorological towers shall not be located in sensitive habitats or in areas where ecological resources known to be sensitive to human activities (e.g., prairie grouse) are present. Installation of towers shall be scheduled to avoid disruption of wildlife reproductive activities or other important behaviors.

- Meteorological towers installed for site monitoring and testing shall be inspected periodically for structural integrity.

A.2.2 Plan of Development Preparation

General

- The BLM and operators shall contact appropriate agencies, property owners, and other stakeholders early in the planning process to identify potentially sensitive land uses and issues, rules that govern wind energy development locally, and land use concerns specific to the region.

- Available information describing the environmental and sociocultural conditions in the vicinity of the proposed project shall be collected and reviewed as needed to predict potential impacts of the project.

- The Federal Aviation Administration (FAA)-required notice of proposed construction shall be made as early as possible to identify any air safety measures that would be required.

- To plan for efficient use of the land, necessary infrastructure requirements shall be consolidated wherever possible, and current transmission and market access shall be evaluated carefully.

- The project shall be planned to utilize existing roads and utility corridors to the maximum extent feasible, and to minimize the number and length/size of new roads, lay-down areas, and borrow areas.

- A monitoring program shall be developed to ensure that environmental conditions are monitored during the construction, operation, and

decommissioning phases. The monitoring program requirements, including adaptive management strategies, shall be established at the project level to ensure that potential adverse impacts of wind energy development are mitigated. The monitoring program shall identify the monitoring requirements for each environmental resource present at the site, establish metrics against which monitoring observations can be measured, identify potential mitigation measures, and establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures and BMPs.

- "Good housekeeping" procedures shall be developed to ensure that during operation the site will be kept clean of debris, garbage, fugitive trash or waste, and graffiti; to prohibit scrap heaps and dumps; and to minimize storage yards.

Wildlife and Other Ecological Resources

- Operators shall review existing information on species and habitats in the vicinity of the project area to identify potential concerns.

- Operators shall conduct surveys for federal and/or state-protected species and other species of concern (including special status plant and animal species) within the project area and design the project to avoid (if possible), minimize, or mitigate impacts to these resources.

- Operators shall identify important, sensitive, or unique habitats in the vicinity of the project and design the project to avoid (if possible), minimize, or mitigate impacts to these habitats (e.g., locate the turbines, roads, and ancillary facilities in the least environmentally sensitive areas; i.e., away from riparian habitats, streams, wetlands, drainages, or critical wildlife habitats).

- The BLM will prohibit the disturbance of any population of federal listed plant species.

- Operators shall evaluate avian and bat use of the project area and design the project to minimize or mitigate the potential for bird and bat strikes (e.g., development shall not occur in riparian habitats and wetlands). Scientifically rigorous avian and bat use surveys shall be conducted; the amount and extent of ecological baseline data required shall be determined on a project basis.

- Turbines shall be configured to avoid landscape features known to attract raptors, if site studies show that placing turbines there would pose a significant risk to raptors.

- Operators shall determine the presence of bat colonies and avoid placing turbines near known bat hibernation, breeding, and maternity/nursery colonies; in known migration corridors; or in known flight paths between colonies and feeding areas.

- Operators shall determine the presence of active raptor nests (i.e., raptor nests used during the breeding season). Measures to reduce raptor use at a project site (e.g., minimize road cuts, maintain either no vegetation or nonattractive plant species around the turbines) shall be considered.

- A habitat restoration plan shall be developed to avoid (if possible), minimize, or mitigate negative impacts on vulnerable wildlife while maintaining or enhancing habitat values for other species. The plan shall identify revegetation, soil stabilization, and erosion reduction measures that shall be implemented to ensure that all temporary use areas are restored. The plan shall require that restoration occur as soon as possible after completion of activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.

- Procedures shall be developed to mitigate potential impacts to special status species. Such measures could include avoidance, relocation of project facilities or lay-down areas, and/or relocation of biota.

- Facilities shall be designed to discourage their use as perching or nesting substrates by birds. For example, power lines and poles shall be configured to minimize raptor electrocutions and discourage raptor and raven nesting and perching.

Visual Resources

- The public shall be involved and informed about the visual site design elements of the proposed wind energy facilities. Possible approaches include conducting public forums for disseminating information, offering organized tours of operating wind developments, and using computer simulation and visualization techniques in public presentations.

- Turbine arrays and turbine design shall be integrated with the surrounding landscape. Design elements to be addressed include visual uniformity, use of tubular towers, proportion and color of turbines, nonreflective paints, and prohibition of commercial messages on turbines.

- Other site design elements shall be integrated with the surrounding landscape. Elements to address include minimizing the profile of the ancillary structures, burial of cables, prohibition of commercial symbols, and lighting. Regarding

lighting, efforts shall be made to minimize the need for and amount of lighting on ancillary structures.

Roads

- An access road siting and management plan shall be prepared incorporating existing BLM standards regarding road design, construction, and maintenance such as those described in the BLM 9113 Manual (BLM 1985) and the *Surface Operating Standards for Oil and Gas Exploration and Development* (RMRCC 1989) (i.e., the Gold Book).

Ground Transportation

- A transportation plan shall be developed, particularly for the transport of turbine components, main assembly cranes, and other large pieces of equipment. The plan shall consider specific object sizes, weights, origin, destination, and unique handling requirements and shall evaluate alternative transportation approaches. In addition, the process to be used to comply with unique state requirements and to obtain all necessary permits shall be clearly identified.

- A traffic management plan shall be prepared for the site access roads to ensure that no hazards would result from the increased truck traffic and that traffic flow would not be adversely impacted. This plan shall incorporate measures such as informational signs, flaggers when equipment may result in blocked throughways, and traffic cones to identify any necessary changes in temporary lane configuration.

Noise

- Proponents of a wind energy development project shall take measurements to assess the existing background noise levels at a given site and compare them with the anticipated noise levels associated with the proposed project.

Noxious Weeds and Pesticides

- Operators shall develop a plan for control of noxious weeds and invasive species, which could occur as a result of new surface disturbance activities at the site. The plan shall address monitoring, education of personnel on weed identification, the manner in which weeds spread, and methods for treating infestations. The use of certified weed-free mulching shall be required. If trucks and construction equipment are arriving from locations with known

invasive vegetation problems, a controlled inspection and cleaning area shall be established to visually inspect construction equipment arriving at the project area and to remove and collect seeds that may be adhering to tires and other equipment surfaces.

- If pesticides are used on the site, an integrated pest management plan shall be developed to ensure that applications would be conducted within the framework of BLM and DOI policies and entail only the use of EPA-registered pesticides. Pesticide use shall be limited to nonpersistent, immobile pesticides and shall only be applied in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications.

Cultural/Historic Resources

- The BLM will consult with Indian Tribal governments early in the planning process to identify issues regarding the proposed wind energy development, including issues related to the presence of cultural properties, access rights, disruption to traditional cultural practices, and impacts to visual resources important to the Tribe(s).

- The presence of archaeological sites and historic properties in the area of potential effect shall be determined on the basis of a records search of recorded sites and properties in the area and/or, depending on the extent and reliability of existing information, an archaeological survey. Archaeological sites and historic properties present in the area of potential effect shall be reviewed to determine whether they meet the criteria of eligibility for listing on the *National Register of Historic Places* (NRHP).

- When any rights-of-way application includes remnants of a National Historic Trail, is located within the viewshed of a National Historic Trail's designated centerline, or includes or is within the viewshed of a trail eligible for listing on the NRHP, the operator shall evaluate the potential visual impacts to the trail associated with the proposed project and identify appropriate mitigation measures for inclusion as stipulations in the POD.

- If cultural resources are present at the site, or if areas with a high potential to contain cultural material have been identified, a cultural resources management plan (CRMP) shall be developed. This plan shall address mitigation activities to be taken for cultural resources found at the site. Avoidance of the area is always the preferred mitigation option. Other mitigation options include archaeological survey and excavation (as warranted) and monitoring. If an area exhibits a high potential, but no artifacts were observed during an archaeological survey, monitoring by a qualified archaeologist could be required during all excavation and

earthmoving in the high-potential area. A report shall be prepared documenting these activities. The CRMP also shall (1) establish a monitoring program, (2) identify measures to prevent potential looting/vandalism or erosion impacts, and (3) address the education of workers and the public to make them aware of the consequences of unauthorized collection of artifacts and destruction of property on public land.

Paleontological Resources

- Operators shall determine whether paleontological resources exist in a project area on the basis of the sedimentary context of the area, a records search for past paleontological finds in the area, and/or, depending on the extent of existing information, a paleontological survey.

- If paleontological resources are present at the site, or if areas with a high potential to contain paleontological material have been identified, a paleontological resources management plan shall be developed. This plan shall include a mitigation plan for collection of the fossils; mitigation could include avoidance, removal of fossils, or monitoring. If an area exhibits a high potential but no fossils were observed during survey, monitoring by a qualified paleontologist could be required during all excavation and earthmoving in the sensitive area. A report shall be prepared documenting these activities. The paleontological resources management plan also shall (1) establish a monitoring program, (2) identify measures to prevent potential looting/vandalism or erosion impacts, and (3) address the education of workers and the public to make them aware of the consequences of unauthorized collection of fossils on public land.

Hazardous Materials and Waste Management

- Operators shall develop a hazardous materials management plan addressing storage, use, transportation, and disposal of each hazardous material anticipated to be used at the site. The plan shall identify all hazardous materials that would be used, stored, or transported at the site. It shall establish inspection procedures, storage requirements, storage quantity limits, inventory control, nonhazardous product substitutes, and disposition of excess materials. The plan shall also identify requirements for notices to federal and local emergency response authorities and include emergency response plans.

- Operators shall develop a waste management plan identifying the waste streams that are expected to be generated at the site and addressing hazardous waste determination procedures, waste storage locations, waste-specific management and disposal requirements, inspection procedures, and waste

minimization procedures. This plan shall address all solid and liquid wastes that may be generated at the site.

- Operators shall develop a spill prevention and response plan identifying where hazardous materials and wastes are stored on site, spill prevention measures to be implemented, training requirements, appropriate spill response actions for each material or waste, the locations of spill response kits on site, a procedure for ensuring that the spill response kits are adequately stocked at all times, and procedures for making timely notifications to authorities.

Storm Water

- Operators shall develop a storm water management plan for the site to ensure compliance with applicable regulations and prevent off-site migration of contaminated storm water or increased soil erosion.

Human Health and Safety

- A safety assessment shall be conducted to describe potential safety issues and the means that would be taken to mitigate them, including issues such as site access, construction, safe work practices, security, heavy equipment transportation, traffic management, emergency procedures, and fire control.

- A health and safety program shall be developed to protect both workers and the general public during construction, operation, and decommissioning of a wind energy project. Regarding occupational health and safety, the program shall identify all applicable federal and state occupational safety standards; establish safe work practices for each task (e.g., requirements for personal protective equipment and safety harnesses; Occupational Safety and Health Administration [OSHA] standard practices for safe use of explosives and blasting agents; and measures for reducing occupational electric and magnetic fields [EMF] exposures); establish fire safety evacuation procedures; and define safety performance standards (e.g., electrical system standards and lightning protection standards). The program shall include a training program to identify hazard training requirements for workers for each task and establish procedures for providing required training to all workers. Documentation of training and a mechanism for reporting serious accidents to appropriate agencies shall be established.

- Regarding public health and safety, the health and safety program shall establish a safety zone or setback for wind turbine generators from residences and occupied buildings, roads, rights-of-ways, and other public access areas that is sufficient to prevent accidents resulting from the operation of wind turbine generators. It shall identify requirements for temporary fencing

around staging areas, storage yards, and excavations during construction or decommissioning activities. It shall also identify measures to be taken during the operation phase to limit public access to hazardous facilities (e.g., permanent fencing would be installed only around electrical substations, and turbine tower access doors would be locked).

- Operators shall consult with local planning authorities regarding increased traffic during the construction phase, including an assessment of the number of vehicles per day, their size, and type. Specific issues of concern (e.g., location of school bus routes and stops) shall be identified and addressed in the traffic management plan.

- If operation of the wind turbines is expected to cause significant adverse impacts to nearby residences and occupied buildings from shadow flicker, low-frequency sound, or EMF, site-specific recommendations for addressing these concerns shall be incorporated into the project design (e.g., establishing a sufficient setback from turbines).

- The project shall be planned to minimize electromagnetic interference (EMI) (e.g., impacts to radar, microwave, television, and radio transmissions) and comply with Federal Communications Commission [FCC] regulations. Signal strength studies shall be conducted when proposed locations have the potential to impact transmissions. Potential interference with public safety communication systems (e.g., radio traffic related to emergency activities) shall be avoided.

- The project shall be planned to comply with FAA regulations, including lighting regulations, and to avoid potential safety issues associated with proximity to airports, military bases or training areas, or landing strips.

- Operators shall develop a fire management strategy to implement measures to minimize the potential for a human-caused fire.

A.2.3 Construction

General

- All control and mitigation measures established for the project in the POD and the resource-specific management plans that are part of the POD shall be maintained and implemented throughout the construction phase, as appropriate.

- The area disturbed by construction and operation of a wind energy development project (i.e., footprint) shall be kept to a minimum.

- The number and size/length of roads, temporary fences, lay-down areas, and borrow areas shall be minimized.

- Topsoil from all excavations and construction activities shall be salvaged and reapplied during reclamation.

- All areas of disturbed soil shall be reclaimed using weed-free native grasses, forbs, and shrubs. Reclamation activities shall be undertaken as early as possible on disturbed areas.

- All electrical collector lines shall be buried in a manner that minimizes additional surface disturbance (e.g., along roads or other paths of surface disturbance). Overhead lines may be used in cases where burial of lines would result in further habitat disturbance.

- Operators shall identify unstable slopes and local factors that can induce slope instability (such as groundwater conditions, precipitation, earthquake activities, slope angles, and the dip angles of geologic strata). Operators also shall avoid creating excessive slopes during excavation and blasting operations. Special construction techniques shall be used where applicable in areas of steep slopes, erodible soil, and stream channel crossings.

- Erosion controls that comply with county, state, and federal standards shall be applied. Practices such as jute netting, silt fences, and check dams shall be applied near disturbed areas.

Wildlife

- Guy wires on permanent meteorological towers shall be avoided, however, may be necessary on temporary meteorological towers installed during site monitoring and testing.

- In accordance with the habitat restoration plan, restoration shall be undertaken as soon as possible after completion of construction activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.

- All construction employees shall be instructed to avoid harassment and disturbance of wildlife, especially during reproductive (e.g., courtship and nesting) seasons. In addition, pets shall not be permitted on site during construction.

Visual Resources

- Operators shall reduce visual impacts during construction by minimizing areas of surface disturbance, controlling erosion, using dust suppression techniques, and restoring exposed soils as closely as possible to their original contour and vegetation.

Roads

- Existing roads shall be used, but only if in safe and environmentally sound locations. If new roads are necessary, they shall be designed and constructed to the appropriate standard and be no higher than necessary to accommodate their intended functions (e.g., traffic volume and weight of vehicles). Excessive grades on roads, road embankments, ditches, and drainages shall be avoided, especially in areas with erodible soils. Special construction techniques shall be used, where applicable. Abandoned roads and roads that are no longer needed shall be recontoured and revegetated.

- Access roads and on-site roads shall be surfaced with aggregate materials, wherever appropriate.

- Access roads shall be located to follow natural contours and minimize side hill cuts.

- Roads shall be located away from drainage bottoms and avoid wetlands, if practicable.

- Roads shall be designed so that changes to surface water runoff are avoided and erosion is not initiated.

- Access roads shall be located to minimize stream crossings. All structures crossing streams shall be located and constructed so that they do not decrease channel stability or increase water velocity. Operators shall obtain all applicable federal and state permits.

- Existing drainage systems shall not be altered, especially in sensitive areas such as erodible soils or steep slopes. Potential soil erosion shall be controlled at culvert outlets with appropriate structures. Catch basins, roadway ditches, and culverts shall be cleaned and maintained regularly.

Ground Transportation

- Project personnel and contractors shall be instructed and required to adhere to speed limits commensurate with road types, traffic volumes, vehicle types,

and site-specific conditions, to ensure safe and efficient traffic flow and to reduce wildlife collisions and disturbance and airborne dust.

- Traffic shall be restricted to the roads developed for the project. Use of other unimproved roads shall be restricted to emergency situations.

- Signs shall be placed along construction roads to identify speed limits, travel restrictions, and other standard traffic control information. To minimize impacts on local commuters, consideration shall be given to limiting construction vehicles traveling on public roadways during the morning and late afternoon commute time.

Air Emissions

- Dust abatement techniques shall be used on unpaved, unvegetated surfaces to minimize airborne dust.

- Speed limits (e.g., 25 mph [40 km/h]) shall be posted and enforced to reduce airborne fugitive dust.

- Construction materials and stockpiled soils shall be covered if they are a source of fugitive dust.

- Dust abatement techniques shall be used before and during surface clearing, excavation, or blasting activities.

Excavation and Blasting Activities

- Operators shall gain a clear understanding of the local hydrogeology. Areas of groundwater discharge and recharge and their potential relationships with surface water bodies shall be identified.

- Operators shall avoid creating hydrologic conduits between two aquifers during foundation excavation and other activities.

- Foundations and trenches shall be backfilled with originally excavated material as much as possible. Excess excavation materials shall be disposed of only in approved areas or, if suitable, stockpiled for use in reclamation activities.

- Borrow material shall be obtained only from authorized and permitted sites. Existing sites shall be used in preference to new sites.

- Explosives shall be used only within specified times and at specified distances from sensitive wildlife or streams and lakes, as established by the BLM or other federal and state agencies.

Noise

- Noisy construction activities (including blasting) shall be limited to the least noise-sensitive times of day (i.e., daytime only between 7 a.m. and 10 p.m.) and weekdays.

- All equipment shall have sound-control devices no less effective than those provided on the original equipment. All construction equipment used shall be adequately muffled and maintained.

- All stationary construction equipment (i.e., compressors and generators) shall be located as far as practicable from nearby residences.

- If blasting or other noisy activities are required during the construction period, nearby residents shall be notified in advance.

Cultural and Paleontological Resources

- Unexpected discovery of cultural or paleontological resources during construction shall be brought to the attention of the responsible BLM authorized officer immediately. Work shall be halted in the vicinity of the find to avoid further disturbance to the resources while they are being evaluated and appropriate mitigation measures are being developed.

Hazardous Materials and Waste Management

- Secondary containment shall be provided for all on-site hazardous materials and waste storage, including fuel. In particular, fuel storage (for construction vehicles and equipment) shall be a temporary activity occurring only for as long as is needed to support construction activities.

- Wastes shall be properly containerized and removed periodically for disposal at appropriate off-site permitted disposal facilities.

- In the event of an accidental release to the environment, the operator shall document the event, including a root cause analysis, appropriate corrective actions taken, and a characterization of the resulting environmental or health and safety impacts. Documentation of the event shall be provided to the BLM authorized officer and other federal and state agencies, as required.

- Any wastewater generated in association with temporary, portable sanitary facilities shall be periodically removed by a licensed hauler and introduced into an existing municipal sewage treatment facility. Temporary, portable sanitary facilities provided for construction crews shall be adequate to support expected on-site personnel and shall be removed at completion of construction activities.

Public Health and Safety

- Temporary fencing shall be installed around staging areas, storage yards, and excavations during construction to limit public access.

A.2.4 Operation

General

- All control and mitigation measures established for the project in the POD and the resource-specific management plans that are part of the POD shall be maintained and implemented throughout the operational phase, as appropriate. These control and mitigation measures shall be reviewed and revised, as needed, to address changing conditions or requirements at the site, throughout the operational phase. This adaptive management approach would help ensure that impacts from operations are kept to a minimum.

- Inoperative turbines shall be repaired, replaced, or removed in a timely manner. Requirements to do so shall be incorporated into the due diligence provisions of the rights-of-way authorization. Operators will be required to demonstrate due diligence in the repair, replacement, or removal of turbines; failure to do so could result in termination of the rights-of-way authorization.

Wildlife

- Employees, contractors, and site visitors shall be instructed to avoid harassment and disturbance of wildlife, especially during reproductive (e.g., courtship and nesting) seasons. In addition, any pets shall be controlled to avoid harassment and disturbance of wildlife.

- Observations of potential wildlife problems, including wildlife mortality, shall be reported to the BLM authorized officer immediately.

Ground Transportation

- Ongoing ground transportation planning shall be conducted to evaluate road use, minimize traffic volume, and ensure that roads are maintained adequately to minimize associated impacts.

Monitoring Program

- Site monitoring protocols defined in the POD shall be implemented. These will incorporate monitoring program observations and additional mitigation measures into standard operating procedures and BMPs to minimize future environmental impacts.

- Results of monitoring program efforts shall be provided to the BLM authorized officer.

Public Health and Safety

- Permanent fencing shall be installed and maintained around electrical substations, and turbine tower access doors shall be locked to limit public access.

- In the event an installed wind energy development project results in EMI, the operator shall work with the owner of the impacted communications system to resolve the problem. Additional warning information may also need to be conveyed to aircraft with onboard radar systems so that echoes from wind turbines can be quickly recognized.

A.2.5 Decommissioning

General

- Prior to the termination of the rights-of-way authorization, a decommissioning plan shall be developed and approved by the BLM. The decommissioning plan shall include a site reclamation plan and monitoring program.

- All management plans, BMPs, and stipulations developed for the construction phase shall be applied to similar activities during the decommissioning phase.

- All turbines and ancillary structures shall be removed from the site.

- Topsoil from all decommissioning activities shall be salvaged and reapplied during final reclamation.

- All areas of disturbed soil shall be reclaimed using weed-free native shrubs, grasses, and forbs.

- The vegetation cover, composition, and diversity shall be restored to values commensurate with the ecological setting.

APPENDIX B
MONITORING

APPENDIX B
MONITORING

Introduction

Monitoring is an essential component of natural resource management because it provides information on the relative success of management strategies. The following proposed monitoring does not constitute the final monitoring plan for the Ely RMP. The proposed monitoring plan will be modified, as necessary, based on any protests that are received on the Proposed RMP, and included in the Approved RMP and Record of Decision.

Monitoring and Adaptive Management

Monitoring is an integral part of adaptive management and is key to achieving the management goals of the RMP. Tracking the progress of actions and measuring changes resulting from these activities is important in either determining success or the need for a different management approach.

Monitoring results will provide information to determine whether objectives have been met, and whether to continue or modify the management actions. Findings obtained through monitoring, together with research and other new information, will provide a basis for adaptive management changes. The processes of monitoring and adaptive management share the goal of improving effectiveness and permitting dynamic response to increased knowledge within the planning area.

Methods of Monitoring

The monitoring process will be designed to collect information in the most cost-effective manner, and may involve sampling or remote sensing. It is not necessary to monitor every management action. Unnecessary detail and unacceptable costs will be avoided by focusing on key monitoring questions and proper sampling methods. The level and intensity of monitoring will vary, depending on the sensitivity of the resource or area and the scope of the proposed management activity.

The following paragraphs provide monitoring direction for those resource programs that may affect special status species or their habitats..

Vegetation Resources

Vegetation communities in both treated and untreated areas will be monitored to determine progress toward attaining desired range of conditions. Monitoring to determine success in meeting vegetation management objectives will shift to measuring cover, composition, and structure of the community (i.e., the parameters essential for identification of phases within the state and transition model concept). Periodic measurements of vigor and productivity will continue (Natural Research Council 1994, Swanson 2005).

Special Status Species

In conjunction with other private, state, or federal agencies, monitoring of known populations of special status species that are considered to be important indicators or obligates to a particular habitat community type (such as greater sage-grouse for sagebrush communities) will continue. Monitoring could consist of intensive research projects or passive population inventories designed to help identify the extent of the populations and habitats being used. Inventories for special status species will be completed within the planning area and information will be used to measure the effectiveness in meeting management objectives on a landscape level and watershed basis.

Travel Management and Off-highway Vehicle Use

Roads will be monitored, usually on an annual basis in coordination with other resource programs, to determine maintenance needs. Monitoring of closed roads will be done in conjunction with monitoring associated with other resource uses such as watershed condition or off-highway vehicle use. The purpose of this monitoring is to ensure that closed roads are not being used and that resource damage, such as erosion, is not occurring.

Monitoring off-highway vehicle uses within the planning area will focus on compliance with specific designations, and will determine whether these uses are causing adverse effects on various resources (i.e., soils, water, air, vegetation, fish and wildlife, etc.). Roads and trails are common vectors for noxious and invasive species and monitoring will routinely occur. Methods of monitoring may include visitor contacts, permit review, visual surveillance, traffic counters, periodic patrols to check boundaries, signing, and visitor use, limits of acceptable change, and/or aerial reconnaissance. Closures will be monitored to ensure public safety and protect affected roadbeds or areas. Baseline data will be established for sites where off-highway vehicle use is occurring, and sites will be rehabilitated or closed as necessary.

Recreation

Monitoring will include periodic patrols to check boundaries, signing, and visitor use; ensure visitor compliance with rules and regulations; and establish baseline data and observation points for determining impacts from recreation use. Studies will be developed to help determine appropriate levels and patterns of recreational use. Monitoring will focus on visitation levels, compliance with rules, regulations, and permit stipulations for specific sites (developed sites), dispersed uses, and prescribed standards and guidelines as set in the respective recreation opportunity spectrum classes. Methods of monitoring may include the use of traffic counters, surveillance at developed recreation sites, limits of acceptable change studies, user contacts, and photo documentation of the changes in resource conditions over time. Monitoring data will be used to manage visitor use, develop plans and projects to reduce visitor impacts, and meet visitor demand.

Livestock Grazing

Monitoring to assess rangeland health standards will include records of actual livestock use, measurements of forage utilization, ecological site inventory data, cover data, soil mapping, and allotment evaluations or rangeland health assessments. Conditions and trends of resources affected by livestock grazing will be

monitored to support periodic analysis/evaluation, site-specific adjustments of livestock management actions, and term permit renewals. Monitoring will determine when grazing will be authorized in burned areas, and will contribute to the selection of prescribed burn treatments or other types of treatments based on attainment of resource objectives.

Geology and Mineral Extraction

Monitoring of mineral action disturbances will ensure compliance with Title 43 Code of Federal Regulations Subparts 3100 (oil and gas leasing), 3200 (geothermal leasing), 3500 (solid mineral leasing), 3600 (mineral materials disposal), 3715 (mining occupancy), 3802 (mining, wilderness review), and 3809 (surface management) regulations. Monitoring activities will consist of periodic field inspections of mineral disturbances.

Monitoring for leasable minerals will ensure compliance with applicable laws and regulations, term and conditions of leases, standard practices and procedures for geophysical exploration, and conditions of approval for drilling and production operations. On producing leases, monitoring is intended to ensure an accurate accounting of material produced and protect the environment and public health and safety. Monitoring will include field inspection of leasable mineral activities as authorized under Title 43 Code of Federal Regulations Subparts 3161 and 3590.

Monitoring for locatable minerals will include periodic field inspections of mining and exploration operations. BLM policy establishes minimum inspection frequencies for mining operations as follows: quarterly inspections are required for all operations using cyanide, and biannual inspections for all other active operations. Operations in sensitive areas or operations with a high potential for greater than usual impacts will be inspected more often. Reclamation should be in accordance with the Title 43 Code of Federal Regulations Subpart 3809, 3715, and BLM Handbook H3042-1. Any noncompliance items will be noted and resolved in accordance with Title 43 Code of Federal Regulations Subparts 3809 and 3715.

Monitoring for mineral materials will ensure compliance with applicable laws, regulations, BLM policy contained in BLM Manual Section 3600 and Handbook H-3600-1, the Title 43 Code of Federal Regulations Subpart 3600 regulations, and the requirements of approved contracts and operation plans. An accurate accounting of material removed, reclamation, protection of the environment, public health and safety, and identification and resolution of mineral material trespass issues will be ensured. Monitoring activities will include periodic field inspection of common use areas and other mineral material extraction operations. Operations in sensitive environmental areas or operations with a high potential for greater than usual impacts will be inspected more often and noncompliance items will be noted under procedures as directed by Title 43 Code of Federal Regulations Subpart 3600.

Watershed Management

Most parameters essential for evaluating watershed health (e.g., vegetation cover, species composition and community structure, erosion features, resistance to disturbance, etc.) will be monitored in conjunction with other resource programs such as vegetation.

Fire Management

Monitoring will determine whether fire management strategies, practices, and activities are meeting resource management objectives, concerns, and land health standards. Pre-fire condition and post-fire effects will be determined by monitoring plant community composition and trends in burn areas to determine natural recovery, responses from seed planting, and weed and cheatgrass expansion. Monitoring methods may include photo points, density, cover, frequency plots (pre- and post-burn), fire regime condition class (degree of departure from natural regime), and ocular estimates.

Noxious and Invasive Weeds Management

Monitoring of vegetation treatments will continue in cooperation with the State of Nevada, counties, and private interests as well as other federal agencies. Inventories to identify new introductions, distribution, and density of noxious weed populations will be carried out on an annual basis in cooperation with these entities:

- Known noxious weed sites that are identified for treatment will be visited each year and evaluated for effectiveness of control.
- Known sites not identified for treatment will be visited as funding is available.
- All known sites visited will be located with a global positioning system unit (or other suitable technology), measured, and a determination of the need for future treatment will be made.
- Inventories for new noxious weeds will be conducted within the planning area subject to funding. Emphasis will be placed on areas having a high potential for weed introduction and dispersal, such as road corridors and off-highway vehicle trails.
- All burned areas (natural and prescribed) will be surveyed for noxious weeds following the burn as funding becomes available. Any newly discovered sites will be located with a global positioning system unit, measured, and a determination of the need for future treatment will be made.

Special Designations Management

Areas managed as a special designation will be monitored annually to determine if the resource values for which the area was designated are stable. Monitoring will focus on threats to resource values and the effectiveness of management provisions in protecting and preserving those resource values. Monitoring will assist the BLM in tracking resource conditions, and making effective decisions to improve conditions for the special resource over time. Where necessary, the monitoring strategy for special designation areas will be refined during activity level planning, e.g., ACEC management plans and designated wilderness management plans.

APPENDIX C
TOOLS AND TECHNIQUES

APPENDIX C
TOOLS AND TECHNIQUES AND PROGRAMMATIC EMERGENCY STABILIZATION AND REHABILITATION PLAN

Introduction

Typical tools and techniques that may be used to manage resources, watersheds, and ecological systems within the planning area are described in this appendix. For discussion and general evaluations, these management aids have been grouped into several categories based on similarity in the types of effects they would have. Vegetation treatment for the restoration of watersheds is a primary management action outlined in the Proposed RMP. Therefore, the first step has been to group similar tools and techniques used for vegetation treatment into categories. These are presented below. Obviously many of the typical tools and techniques listed in this appendix overlap into two or more of these broad categories. Professional judgment was used to identify the best fit with the inherent nature of the tool or technique itself.

For any particular resource or resource use, potential impacts may be driven by only a few primary tools and techniques within a category. Where substantial impacts may occur on other resources from a typical tool or technique, these are described in Chapter 4.0. Potential impact assessments generally focus on vegetation, soils, water resources, wildlife resources, and other resources as appropriate. Typical tools and techniques do not vary by alternative, so their potential impacts are discussed at the beginning of each resource program under consideration.

Typical Tools and Techniques

Vegetation Treatment Tools and Techniques

Fire Treatments

- Wildland fire use – Natural fires started by lightning or other natural causes would be managed to achieve restoration goals.
- Prescribed fire – Management fires ignited by available devices.
- Heavy equipment – Heavy equipment such as bulldozers is used to clear fire lines.
- Hand tools – Typically, crews dig hand lines around small fires with chainsaws, pulaskis, and shovels to provide a fuel break for containing them. Fire fighting also includes "mop-up" methods to extinguish embers. Methods include turning over soil and logs and spraying water on the hottest spots.
- Aircraft – Helicopters and slurry bombers (single-engine and multi-engine) are primarily used for fire detection, management, and suppression. Smoke jumpers and helitack crews often are deployed from helicopters and other aircraft to perform initial attack on wildfires.
- Fire retardant – Aerial applications of slurry to suppress or influence wildfire behavior. In some areas, retardant in the form of foam is used to protect sensitive resources.
- Pile burning – Woody debris is piled together and subsequently burned on site.

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- Burn out – Setting fire inside a control line to widen it or to consume fuel between the edge of the fire and the control line.
- Fire rehabilitation – Procedures for stabilizing and rehabilitating burned areas are included in the Normal Year Fire Rehabilitation Plan.

Mechanical Treatments

- Chaining/brush rolling – Steel chain (60 to 120 pound links totaling 200 to 300 feet in length), with or without rails welded to each link, spanned between two bulldozers to uproot trees. Rails are 18 to 24 inches in length and made from 70- to 90-pound rail. Two passes of the chain in opposite directions is required.
- Mowing/brush beating – Mowing is sometimes used for noxious weed management.
- Machine cutting and piling – Heavy machinery is used to cut and push woody vegetation into piles.
- Disc plowing – A farming disc or brush-land plow is pulled by a tractor to turn over the soil for several types of vegetation treatment, including reseeding.
- Green-stripping – Remove flammable fuels by brush beating, mowing, or other methods in strategic locations and replace with less flammable species, such as forage kochia or crested wheatgrass in order to influence fire behavior.
- Hand cutting – Woody vegetation is cut using chainsaws, hydraulic axes, or other hand tools.
- Pulling – Where noxious weed infestations are small and conditions are conducive, manual pulling of weeds can be an effective non-invasive method of weed management. May also be used where other methods are prohibited.
- Lopping and scattering – Woody biomass that results from vegetation clearing is cut into specified dimensions and scattered.
- Chipping – Residual biomass created as a result of tree removal is turned into small wood chips. Wood chippers are typically small mobile machines transported to and used on site. Chips are distributed by mechanical spreading.
- Pitting and scalping – The ground surface is mechanically pitted or scalped to increase water retention.
- Biomass use – Biomass in the form of trees and shrubs may be generated through vegetation clearing for watershed restoration and for fuel reduction in wildland urban interface areas. Such biomass could be utilized in a number of ways depending on the proposed project size and location and the economic conditions at the time the project is implemented. Biomass uses could include fuel for small electric generating plants (green energy) and raw material for consumer products. BLM would approve such uses of biomass on a case-by-case basis.

Chemical Treatments

- Selective and non-selective herbicides

  As of 2004, the following herbicides were approved for use on BLM lands. It is anticipated that this list will be modified over time. As herbicides gain or lose BLM approval, their use on Ely Field Office lands will reflect BLM approval. All herbicide use will be according to label directions. The

Ely Field Office will use the least toxic or lowest amount of herbicide that will achieve the desired result.

Atrazine	Dicamba	Imazapyr + Diuron	Tebuthiuron
Bromacil	Dicamba + 2,4-D Diuron	Mefluidide	Tebuthiuron + Diuron
Bromacil + Diuron	Glyphosate	Metsulfuron	Triclopyr
Chlorsulfuron	Glyphosate + 2,4-D	Picloram	Triclopyr + 2,4-D
Clopyralid	Glyphosate + Dicamba	Picloram + 2,4-D	Triclopyr + Clopyralid
Clopyralid + 2,4-D	Hexazinone	Simazine	
2,4-D	Imazapyr	Sulfometuron	

[1] BLM Information Bulletin No. 2004-030.

Biological Treatments – Grazing Management

- Type of livestock – Use livestock including sheep and goats to remove unwanted vegetation or to facilitate changes in vegetative composition.
- Season of use – Livestock authorizations include season of use by allotment and/or pasture. Allotments are either yearlong or seasonal in permitted use. Rest-rotation, deferred rotation provide rest from grazing under different types of schedules.
- Stocking rate – Permitted stocking levels (animal numbers) can be adjusted to achieve vegetation objectives.
- Allowable use – Identified for allotments, pastures or other specified areas based on the physiology, phenology, density, vigor and condition of key forage species. Monitoring is required on a periodic basis to determine if allowable use is exceeded and what actions should be taken.
- Water haul facilities – Moveable water tanks may be used to control livestock distribution. Avoid tank locations on or adjacent to steep erodible soils or near other sensitive resources.
- Salt/mineral/supplement blocks – Salt/mineral/supplement block placement locations can be used to control livestock distribution. Avoid salt placement on or adjacent to transportation routes, on steep erodible soils, or near other sensitive resources.

Biological Treatments – Other Management

- Seeding/interseeding – Aerial- or terrestrial-based seeding of grasses, forbs, and shrubs to revegetate disturbed areas. Range drills. Plows. Seed spreaders. Seed rollers and drums.
- Planting – Plant seedlings or cuttings of woody species such as willows or cottonwoods to accelerate the recovery of riparian areas and attain proper functioning condition.
- Biological control – Where appropriate, agents (such as insects, bacteria, or pheromones) that feed, infect, disrupt, or compete with noxious or invasive species to their detriment may be released for management purposes.

Other Tools and Techniques

Structural Tools

- Heavy equipment – Bulldozers, road graders, and other equipment are used to maintain roads, mine minerals, construct campgrounds, etc.
- Light and medium duty equipment – Cars and trucks used to access sites for all types of administrative work or permitted activities.
- Water bars – Constructed mounds typically on closed roads designed to slow overland flow and soil erosion on steep slopes.
- Straw bales – Straw bales are strategically placed and anchored to minimize soil loss on recently disturbed or revegetated sites especially on slopes.
- Stream structures – Logs, gabions, and other stream structures may be used to catch sediment or create fish pools.
- Bat gates – Metal gates are installed at the entrances of caves or abandoned mines to protect important bat habitats, such as maternity roosts, and to protect cave resources from human use.
- Big game crossing passes – Used to facilitate big game crossing at highways and other high traffic zones.
- Water development – Water developments increase the density and availability of water for wildlife and livestock. Developments vary from piped springs to trickle tanks and gallinaceous guzzlers that capture rainwater and store it in cisterns while allowing controlled use. Water pipelines traversing little watered areas are sometimes used to provide water at intervals along their length.
- Water escape ramps – Provide escape ladders or other devices to allow small mammals and herptiles to escape man made waterbodies that may trap them.
- Livestock fencing – Primarily used to control livestock distribution. Protect vulnerable areas such as riparian zones by excluding grazing animals.
- Gates – Gates are installed to control access on a seasonal or permanent basis.

Administrative or Regulatory Tools

- Permits – Permits are provided for personal and commercial use of materials such as gravel, fuelwood, and pinyon pine nuts. Other activities requiring a permit include some special recreation events and collecting materials for research of caves in the planning area.
- Fees – Fees are collected to aid in the tracking and management of various uses of federal lands and resources.
- Visitor signs – Signs are used to instruct or inform visitors to the public lands regarding health and safety issues, unique vistas or resources, land use restrictions, or general interest items. They may be used to direct activities away from sensitive areas and to concentrate impacts in other areas. Signs also may be used for visitor outreach to make visitors aware of recreation opportunities such as trails, roads, and recreation sites.
- Temporary or permanent closure – Close sensitive areas to recreational, development, treatment, and other permitted activities during sensitive periods.

- Road closures – Temporary or permanent road closures in order to facilitate achievement of land health standards.
- Law enforcement – Law enforcement is a tool to monitor public uses on public lands from assistance during hunting season to fuelwood collection.
- Stewardship contracting – In February 2004, the BLM approved guidelines for developing and entering stewardship agreements as part of the Healthy Forests Initiative. Stewardship contracts allow private entities to retain forest products in exchange for services such as thinning trees and cutting brush. Stewardship projects are primarily focused on restoration and expected to benefit fuels, wildlife and fish, forest, rangeland, and riparian resources. As defined in IM 2004-081 (1/16/04), stewardship opportunities are those that would achieve land management goals as well as meet local and rural community needs. Stewardship contracts and agreements are by definition long-term, giving contractors the ability to invest in equipment and infrastructure.
- Wild horse gathers – Gathers may be conducted by horseback or with helicopter. Temporary traps and pens may be constructed for holding animals.
- Wild horse fertility control - Artificial fertility control measures (e.g., implanted or oral contraceptives) may be applied to control population birth rate and recruitment rate.

Research Tools

- Stream gauges – Used to measure stream flows at permanent sites.
- Flow meters – Used to take spot measurements of stream flow.
- Monitoring of wildlife or vegetation species populations – Monitoring is conducted to establish trends in population locations and numbers.
- Telemetry – Telemetry involves the use of radio transmitters and receivers primarily to monitor animal movements.
- Wild horse fertility control measures – Used to reduce the number of new foals born in existing herds.
- Vegetation exclosures – As appropriate for monitoring, existing vegetation exclosures would be maintained and new exclosures would be constructed. Vegetation exclosures exclude livestock, wild horses, and wildlife from reference areas to assess the effects of grazing on vegetation.

APPENDIX C (Continued)
PROGRAMMATIC EMERGENCY STABILIZATION AND REHABILITATION PLAN

Introduction

The purpose and need for the Normal Year Fire Rehabilitation Plan is to create a framework for the Ely Emergency Stabilization and Rehabilitation program that will streamline Emergency Stabilization and Rehabilitation procedures and allow for the completion of on-the-ground treatments within a timeframe consistent with the urgent nature of fire rehabilitation. In addition, this document will enable the Ely Field Office to initiate Emergency Stabilization and Rehabilitation proposals that reduce the adverse effects of wildfire on soil, vegetation, crucial wildlife habitat, property, water quality, and other resources.

Emergency Stabilization and Rehabilitation activities are funded separately. Thus, depending on the conditions of the burned area, an Emergency Stabilization and/or a Rehabilitation Plan may be written following a wildfire. In some instances, neither plan may be written.

Currently, emergency stabilization plans address:

- Minimizing threats to life, property, and critical cultural and natural resources resulting from the effects of a fire;
- Promptly stabilizing and preventing further degradation to affected resources on lands within the fire perimeter or areas affected directly by wind or water erosion from burned areas; and
- Repairing damages caused by fire suppression operations.

Currently, rehabilitation plans address:

- Mitigating actual and potential long-term post-fire impacts to critical cultural and natural resources and treating those areas unlikely to recover naturally from severe wildland fire damage by emulating historic or pre-fire ecosystem structure, function, diversity, and dynamics;
- Restoring or establishing healthy, stable ecosystems in the burned area, even if these ecosystems cannot fully emulate historic or pre-fire conditions; and
- Repairing or replacing fire damage of minor operating facilities.

In the future, Emergency Stabilization and Rehabilitation plans may address different objectives as determined and stated in future department manuals or documents.

As stated in the Department of the Interior 620 Department Manual 3, funding for Emergency Stabilization treatments and activities is provided for no more than one year following containment of a wildland fire, except that Emergency Stabilization funding may be used to repair or replace Emergency Stabilization

structures or treatments for up to three years following containment of a wildland fire where failure to do so would imperil watershed functionality or result in serious loss of downstream values and for monitoring. Funding for rehabilitation treatments is provided in 1-year increments for no more than 3 years following containment of a wildland fire.

Emergency Stabilization and Rehabilitation funds may not be used for prescribed fire projects in which fire behavior was within prescription. Rehabilitation actions may be planned and funded only for projects that were declared wildfires or where fire behavior exceeded prescription. Wildland fires for resource benefits are not eligible for rehabilitation funds. Furthermore, Emergency Stabilization and Rehabilitation funds are not to be used for rehabilitation caused by wildland fire suppression actions. Costs for rehabilitating wildland fire suppression actions will be funded by the appropriate fire suppression subactivity. Nonetheless, in the future, what is allowed under Emergency Stabilization and Rehabilitation funding may change, and the Emergency Stabilization and Rehabilitation program will assign funding dollars accordingly.

The process for implementing emergency fire rehabilitation activities through a site-specific plan development process is described in the following paragraphs. However, the implementation process may be revised as the needs and regulations of the Emergency Stabilization and Rehabilitation program evolve.

1. Prior to fire containment, an interdisciplinary team will determine if Emergency Stabilization and/or Rehabilitation will be needed in a burned area. If Emergency Stabilization and/or Rehabilitation will be needed, an interdisciplinary team assesses the Emergency Stabilization and Rehabilitation needs of the burn and selects the necessary Emergency Stabilization or Rehabilitation prescription from the Normal Year Fire Rehabilitation Plan. (If the necessary prescription does not fall under the scope of this plan, refer to the Department of the Interior 620 Department Manual 3 for guidance.) Generally, rehabilitation efforts not covered in this plan would require an environmental assessment and approval by the State Director unless the action falls under a categorical exclusion.

2. An interdisciplinary team will then proceed to write both an Emergency Stabilization and a Rehabilitation plan that tier to the Normal Year Fire Rehabilitation Plan. As needed and determined appropriate by the interdisciplinary team, the plans may incorporate any or all of the following prescriptions: seed mixture (unless the prescribed seed mixture does not meet unique needs of the burned area), application rates, planting/seeding methods, costs, erosion control structures, protection fencing, and grazing adjustments beyond the normally prescribed minimum two growing seasons rest period.

3. In determining the Emergency Stabilization and/or Rehabilitation needs of a burn, the interdisciplinary team will keep in mind that natural recovery by native plant species is preferable to planting or seeding, either of natives or non-natives. If planting or seeding is necessary, the use of native species is preferable. To the extent permitted by law and Executive Order 13112, Invasive Species, dated February 3, 1999, introduction of exotic species into natural ecosystems will be restricted unless the Secretary of the Interior finds that such introduction will not have an adverse effect on natural ecosystems.

4. Once appropriate treatments are determined, a budget is created that summarizes the Emergency Stabilization and Rehabilitation costs by fiscal year. This budget is sent to the State Director for funding approval, or the Washington Office if the budget is over $100,000.

5. Cultural and threatened and endangered species clearances will be completed prior to project implementation. Known populations of threatened and endangered plants will be marked and that area restricted from heavy equipment use. Emergency Stabilization and/or Rehabilitation activities that involve mechanized surface disturbance greater than 10 centimeters in depth will require a cultural survey. Any archaeological resources discovered will be marked and avoided by ground disturbing equipment or will be relocated.

Rehabilitation actions outlined in the rehabilitation plan may fall under the categorical exclusion for rehabilitation activities for lands and infrastructure impacted by fires or fire suppression. The rehabilitation categorical exclusion does not cover Emergency Stabilization. In order to ensure that public concerns/interests are addressed, "the responsible officials will consider, on a project-by-project basis whether or not any of the Department of the Interior's exceptions apply. [Furthermore], the responsible official will prepare a decision memo that will be available for public review."

The rehabilitation activities eligible for categorical exclusion and the conditions they must be performed under are listed in the following paragraphs as stated in the Notice for the National Environmental Protection Act (NEPA) Determination Needed for Fire Management Activities; Categorical Exclusions:

- Post-fire rehabilitation activities not exceeding 4,200 acres (such as tree planting, fence replacement, habitat restoration, heritage site restoration, repair of roads and trails, and repair of damage to minor facilities such as campgrounds) to repair or improve lands unlikely to recover to a management approved condition from wildland fire damage, or to repair or replace minor facilities damaged by fire.

- Activities (such as reseeding or planting, fence construction, culvert repair, installation of erosion control device and repair of roads and trails) necessary for rehabilitation of habitat, watersheds, historical, archeological, and cultural sites and infrastructure impacted by wildfire and/ wildfire suppression.

The preceding activities shall be conducted consistent with agency and departmental procedures and applicable land and resource management plans; shall not include the use of herbicides or pesticides or the construction of new permanent roads or other new permanent infrastructure; and shall be completed within 3 years following a wildland fire. Categorical exclusions that apply to the Emergency Stabilization and Rehabilitation program may be revised or added to the department manual and/or other government document(s); consequently, the NEPA process for Emergency Stabilization and Rehabilitation plans may change.

In order to facilitate effective Emergency Stabilization and Rehabilitation treatments, one or more of the following treatments should be considered following a wildfire.

Site Protection

1. Grazing Closure

All revegetated areas as well as areas that have been burned but not revegetated may be closed to grazing until resource objectives are achieved or another course of action is determined if objectives are not met. The grazing closure must be initiated the growing season following the season in which the wildfire burned. Monitoring data will determine when a closed area is reopened for grazing. Grazing closures following a wildfire may be necessary in order to allow for vegetation recovery of both seeded and non-seeded species as well as to protect soil, water and other range resources. However, grazing may be allowed and not closed if it is determined that grazing would have beneficial impacts in reducing annual grasses, etc. A site-specific plan would be developed to guide these actions. See Early Livestock Grazing, page G-11. Recovery objectives should be established for each Emergency Stabilization and Rehabilitation Plan. Annual assessments of the burn area should be established when the grazing closure is initiated and an interdisciplinary team should evaluate the burn area at the end of each growing season to determine if recovery objectives have been met. If objectives have not been met, it may be necessary to extend the grazing closure and continue annual evaluations to determine when recovery objectives have been met, at which point normal grazing may resume. The following methods of grazing closures should be evaluated on a case-by-case basis to determine which method, or combination of methods, is/are suitable for an Emergency Stabilization or Rehabilitation Plan.

a. Repair of existing fence(s) for resource protection. Repair to fences damaged in the wildfire may be necessary in order to protect resources from grazing following a wildfire. Fences that may require repair in order to meet recovery objectives include, but are not limited to, exclosures for riparian area protection, designated study sites, wilderness study areas, allotment boundary, and pasture fences.

b. Construction of new fence(s) for resource protection. A new protective fence may be constructed to protect a burned area and its resources from grazing. Protective fences may be either permanent management fences or temporary. Temporary fences should be constructed in rangeland areas that require rest from grazing during the vegetation establishment period following the wildfire, but will not require further grazing management to maintain and protect resources following the rehabilitation process. It should be stated in the Emergency Stabilization or Rehabilitation Plan whether the constructed fence is intended to be permanent or temporary.

c. Grazing deferment without repair or construction of fence(s). In certain cases fencing may not be necessary in order to achieve grazing closure. A grazing deferment may be achieved in some locations by changing water supply for wildlife or changing grazing rotations for livestock. This method should be evaluated on a case-by-case to determine whether or not it will achieve an effective grazing closure and allow for vegetation recovery.

2. Wild Horse Haze

Where grazing by wild horses may affect seedling growth, it is desirable to remove horses from the burn area. Horse hazing may be sufficient to relocate horses on areas that are not fenced. Hazing may also be necessary prior to fencing the burn area so that no horses remain within the fenced area.

3. Wild Horse Gather

A wild horse gather may be required if it is determined that wild horse removal from the burn area is necessary and hazing is not a suitable option. Wild horse removal may be necessary not only by the need to protect establishing seedlings, but also to relieve grazing pressures outside the burn area where there is inadequate forage to support horses and big game wildlife.

Site Stabilization

1. Natural Revegetation

In some cases, natural revegetation may allow for successful establishment of native or previously seeded rangeland species. Natural revegetation may be used following wildfires that do not completely destroy the existing perennial vegetation, where there is a desirable and viable post-fire seedbank, or where there is a desirable root mass present. Natural revegetation may also be used where seeding is not possible due to topography, precipitation, or soil type. To determine if natural revegetation is a feasible treatment, an Emergency Stabilization and Rehabilitation team will assess the burned area and determine whether or not natural revegetation will allow for enough vegetation establishment within the first two post-fire growing seasons to prevent watershed degradation.

2. Seeding

Seeding may be necessary in order to stabilize soils or reestablish a desirable perennial plant community within a reasonable time frame. Seeding may also be used to prevent spread of non-native invasive weeds within the fire area by providing competing vegetation. If seeding is determined as a suitable treatment, the following steps should be evaluated and initiated as needed

a. Site preparation.

- Herbicide use prior to seeding

  Where invasive, non-native plant species become established prior to seeding, herbicides may be used to reduce their cover and density. Reducing invasive species allows for better establishment of seeded species by reducing competition. Direct treatment of invasive species is allowable as part of emergency stabilization plans when action is determined necessary and when standard, validated, treatments are used.

- Disking

Disking may be used prior to seeding to create a suitable seedbed where vegetation and topography allows. Disking breaks up surface debris by lifting and turning over the top layer of soil. This creates germination microclimates for applied seed and also creates small soil pockets that can trap moisture. Disking may also reduce competition from invasive species such as *Bromus tectorum* that may have rapid establishment following a wildfire.

- Early livestock grazing

Early (spring) livestock grazing may be used to reduce the establishment of invasive species such as *Bromus tectorum* that exhibit growth early in the spring. Early grazing can reduce the number of seed heads that reach maturity later in the season as well as allowing for higher levels of establishment of seeded and native perennial species by reducing competition.

b. Seed Mixes.

- Native and introduced species

Seed mixes should be created on a site-specific basis taking into account the pre-fire vegetation community, probability of success, wildlife needs, the presence or absence of invasive species, and site characteristics on a watershed scale. A mixture of native and introduced species may be used for site stabilization or rehabilitation. This mixture is most useful when rapid establishment is necessary for site (soil) stabilization as it is often the perennial grasses that will become established first. For emergency stabilization seed mixes, only species that will be effective within three years should be used.

c. Seeding Techniques.

- Drill

Drill seeding uses a rangeland drill to seed selected species at a desired depth. This method of seeding is successful in both seed application and incorporation and is a preferred method for establishing a post-fire perennial plant community. Rangeland drills cannot be used at sites that are too steep, do not have suitable soil, or have dense, burned, tree stands. Under these circumstances aerial seeding should be considered for seed application.

- Aerial

Aerial seeding involves the spread of seed from a helicopter or fixed-wing aircraft. This method of seeding is most effective for large areas where a rangeland drill cannot be used. Aerial seeding may be more effective if followed by a seed incorporation treatment such as chaining.

- On ground broadcast

For small burn areas requiring seeding, seed mixes may be spread by hand or from an all-terrain vehicle, tractor, or truck-mounted spreader. With the exception of hand spreading, this method can only be used in areas that are easily accessible, with low topographical gradients, and where the presence of rock and trees is minimal to non-existent.

d. Seed incorporation.

- Chain

An Ely chain can be used following an aerial seed application to help incorporate the seed into the soil and create favorable microclimates for germination/establishment. By disturbing the soil surface, chaining also helps create small pockets in which water is trapping, increasing surface soil moisture and further creating favorable conditions for seed germination and establishment. Chaining disturbs the soil surface by direct contact as well as by uprooting and dragging trees for a minimal distance. Both one-way and two-way chaining may be used.

- Roller chop

A roller chopper may also be used for seed incorporation in areas where tree stands are too dense for a rangeland drill. A roller chopper incorporates seed and cuts up organic debris to create a favorable environment for seed germination and reduce erosion on mild slopes or where soil is highly susceptible to erosion. Seeding can be done behind the tractor (in front of the chopper), or can be applied aerially prior to the roller chopper treatment.

- Livestock

Livestock such as cows or goats may be used in smaller treatment areas for seed incorporation. If livestock are kept moving, their hoof action breaks up the soil surface and incorporates seed into the soil. The livestock also add organic matter to the site while they are working the soil.

- Harrow

A harrow device can be used to cover seed at some sites, allowing for better seed germination and establishment. A harrow can only be used where machinery such as a tractor can access a site, where there is minimal slope, acceptable soil, and no dense stands of trees. Harrowing is primarily useable in previously cultivated rangelands, perennial grass communities, or perennial grass-sagebrush communities. A harrow can be used when disking by dragging the harrow behind the disk and using an on-ground-broadcast for the seed mix where the seed is applied between the disk and the harrow. This method allows for site preparation, seed application, and seed incorporation with one pass of a tractor.

- Hand rake

Hand raking may be used for seed incorporation for small areas where it is more cost effective than bringing in machinery or in areas that are inaccessible to machinery due to terrain, soil, or tree density. Hand raking may also be considered in desert scrub communities where the use of machinery might potentially create an unacceptable amount of fugitive dust.

3. Planting

Shrub and tree seedlings can be planted separately or in combination with a seeding treatment. Seedlings are used to reestablish native tree species lost in a wildfire, prevent the establishment of invasive plant species, and restore habitat in crucial wildlife habitat, fish habitat, riparian areas, or wilderness study areas. The planting of seedlings would help mitigate changes in forest, shrub land, or riparian ecosystems and restore them to the natural, pre-fire conditions. The planting of native seedlings is preferred.

4. Initial Overland Flow Erosion Control

Erosion control and sediment trapping features may be necessary on burned areas where there is high risk of erosion, sediment run-off, or flood waters. Erosion control structures are suggested, but not limited to areas requiring immediate short term stabilization. Primary areas of concern are where there is the possibility of damage to property and critical resources. This may include areas where ephemeral or perennial streambeds cannot adequately transport increases in water run-off and bedloads, steep slopes, and areas with hydrophobic or highly erosive soils. If erosion or sediment control structures are determined to be necessary, the following options should be considered.

a. Contour felled logs. Where there is anticipated water and sediment runoff following a wildfire, contour felled logs may be used. The primary function of contour felled logs is to divert and break up high volume water flows, reduce water velocity, and create a rough terrain, thereby reducing the ease of water runoff. Secondarily, contour felled logs retain sediment.

b. Mulch. Organic matter (mulch) may be spread over a burned area in order to reduce rain impact and reduce soil erosion. Mulch also retains moisture creating favorable conditions in hot dry areas for seed germination. However, if mulch is spread too thick, it can inhibit the establishment of seeded as well as non-seeded species. Mulch should primarily be used in areas where high levels of erosion are anticipated. Use of mulch is not recommended in areas with sensitive or rare plants. All mulch should be certified weed free prior to use. The following mulch treatments should be evaluated if mulch is desired following a wildfire.

- Mulch blankets

Mulch blankets are made with materials such as straw or wood fibers and are usually stitched together with photodegradable plastic netting. Mulch blankets provide a uniform cover for vegetation establishment while preventing erosion on moderate to steep slopes. Areas where mulch blankets

should be considered include, but are not limited to, along roads and where erosion from burned slopes may harm critical habitat or physical structures.

- Weed-free straw

  Certified weed-free straw can be purchased and spread by hand, mechanically, or in remote areas, by helicopter or fixed-wing aircraft. Straw mulch provides soil stabilization and retains soil moisture, increasing seed germination and establishment.

- Hydromulch

  Hydromulch may be applied mechanically on the ground along road sides or at accessible sites, or aerially in more remote areas. Hydromulch aids in site stabilization by reducing soil erosion through providing ground cover. Hydromulch also provides and retains soil moisture, enhancing seedling germination and establishment. Hydromulch may be applied after a burned area is seeded or seed may be incorporated into the hydromulch slurry allowing seed and mulch to be applied in one treatment.

c. Silt fences. Silt fences are primarily useful in swales, small seasonal streambeds, and on hillsides where other sediment traps cannot be used. Silt fences are most affective on shallower slopes where they will not experience high sediment loads. Silt fences must be well anchored and monitored to prevent failure, which could cause a high volume sediment release.

d. Straw bale check dams/other gabions. Dams made out of materials such as straw or rock can be used to reduce sediment in perennial streams following wildfires. The dams detain water long enough for coarse sediment to be deposited on the up-stream side of the dam. Dams also reduce water velocity and can be used to replace woody debris that may have been burned during the wildfire.

e. Sand, soil, and gravel bags. Sand, soil, and gravel bags can be used on slopes and in channels to interrupt overland water flow and reduce soil erosion by trapping sediment runoff. Bags can be placed in rows similar to contour felled logs in order to promote surface water infiltration.

Cultural Resources Site Stabilization and Protection

Under emergency stabilization and rehabilitation funding, assessments of significant heritage and cultural sites in areas affected by treatments may be conducted. Critical heritage resources affected by wildfire may also be stabilized and looting may be prevented by patrolling, camouflaging, or burying significant heritage sites.

Hazardous Waste Stabilization

Hazardous wastes should be assessed on a case-by-case basis when located within a burned area. Proper actions should be taken to treat or remove hazardous wastes in a timely manner.

Invasive and Non-native Weed Control

Seeding may be used to prevent the establishment of invasive species. Direct treatment such as the use of herbicides may also be used to reduce the spread of invasive species. This may be done under emergency stabilization funding when immediate action is required and validated techniques are used. In addition, chemical, manual, and mechanical treatments of invasive species as well as planting of native and non-native species may be accomplished under rehabilitation funding in order to re-establish a functioning ecosystem even where pre-fire conditions cannot be immediately restored.

Road/Facility Repair

Emergency Stabilization treatments include increasing road drainage for post-fire runoff and replacing or repairing minor facilities where they are essential to public health and safety. In addition, treatments allowable under rehabilitation funding include the replacement or repair of minor operating facilities. These facilities could include, but are not limited to, campgrounds, shade shelters, fences, wildlife guzzlers, and interpretive signs. When repair or reconstruction of roads is necessary for Emergency Stabilization purposes, one or more of the following treatments may be implemented.

1. Out Sloping

In some cases surface water control on roads may be accomplished by shaping the road surface to deflect water runoff perpendicular to the direction of travel on the road. This may prevent rilling and gullying caused by concentrated water flow.

2. Culvert Upgrades

Following a wildfire, there is often an increased level of surface water runoff. Existing culverts may be replaced with larger diameter culverts to prevent damage to a road. Upgraded culverts should be installed before the first major rains following a wildfire. Armoring of culvert inlets and outlets should be considered to prevent culvert and road damage.

3. Rolling Dips/Water Bars/Cross Drains/Culvert Overflows/Bypasses

Road repair and upgrade may be necessary following a fire to control high levels of surface water runoff. Most road water control treatments can be completed with a road grader, dozer, rocks, or logs. These treatments are a combination of ditches and berms that run perpendicular or at an angle to a road or trail. They may be used to control and drain surface water on the road or the ditch on the downhill side of the road when culverts are not expected to handle predicted levels of surface water. Depending on site specific purpose, and water control method chosen, some treatments may prevent use of a road.

Wilderness Study Area Guidelines for Emergency Stabilization and Rehabilitation

Emergency Stabilization and Rehabilitation actions following a wildfire in a wilderness study area will be in conformance with the guidelines described in the Interim Management Plan for Lands Under Wilderness Review (H-8550-1). If a fire occurs within both wilderness study area and non-wilderness study area lands the Emergency Stabilization and Rehabilitation actions will follow the Interim Management Plan for the area within the wilderness study area and follow the Normal Year Fire Rehabilitation Plan for lands burned outside the wilderness study area. If the conditions of the fire permit i.e., no mechanical treatments or non-native species seeding, etc., are deemed crucial, the non-wilderness study area land may be treated the same as the wilderness study area land.

Interested parties will be allowed a 30-day comment period on the proposed treatment in wilderness study areas unless it is not possible to do so because of emergency conditions (i.e., the 30-day comment period would result in missing the optimum period for treatment). If a full 30-day period is not allowed due to time constraints, the necessary parties would be contacted for immediate comment, and a follow-up copy of the proposed action would be forwarded.

Any fire suppression activities that are determined to have negatively affected the wilderness values of the wilderness study area will be rehabilitated prior to the release of fire crew support. These suppression rehabilitation activities will be funded by the appropriate suppression subactivity.

All Emergency Stabilization and Rehabilitation actions must maintain or enhance the wilderness values of the area. Thus, the minimum tool concept will be applied to all emergency and rehabilitation activities to ensure the proposed action is necessary and does not damage the area. Hand or aerial seeding and planting of native species may be done to restore natural vegetation. Generally, seed will be aerially applied unless the fire is small and hand application will not harm the area's wilderness suitability. Seedings and plantings will be staggered or irregular so as to avoid a straight-line plantation appearance. Cross-country use of motorized equipment will be minimal. Each wildfire will be evaluated on a case-by-case basis to ensure that species seeded and the methods for seeding are in compliance with the guidelines set forth in the Interim Management Plan.

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Denver Federal Center
Bldg. 85, OC-521
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Denver, CO 80225

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